

LPC 0850260920 Jo Daviess County
Jo Daviess Service Company
ST/IRS

*A
farm*

CERCLA Integrated Site Assessment

RECEIVED

JUL 11 1996

IEPA/DLPC



**Illinois Environmental
Protection Agency**

2200 Churchill Road
P. O. Box 19276
Springfield, IL 62794-9276

EPA Region 5 Records Ctr



343597

TABLE OF CONTENTS

<u>Section</u>	<u>Page</u>
1 Introduction	1
2 Background	3
2 1 Introduction	3
2 2 Site Description	4
2 3 Site History	7
2 4 Applicability of Other Statutes	8
3 Site Inspection and Analytical Results	9
3 1 Introduction	9
3 2 Site Representative Interview	9
3 3 Reconnaissance Inspection	9
3 4 Soil/Sediment, Surface Water, and Groundwater Sampling	12
3 5 Soil/Sediment Sampling Procedures	12
3 6 Surface Water Sampling Procedures	18
3 7 Groundwater Sampling Procedures	21
3 8 Analytical Results	23
3 9 Key Samples	25
4 Identification of Sources	25
4 1 Introduction	25
4 2 Wastepile	32
4 3 Contaminated Soil	33
5 Discussion of Migration Pathways	33
5 1 Introduction	33
5 2 Groundwater	34
5 3 Surface Water	36
5 4 Soil Exposure	37
5 5 Air Route	38
6 Bibliography	40

-7656-
Wsan
C

LIST OF TABLES

<u>TABLE</u>	<u>PAGE</u>
3-1 Sample Descriptions	26, 27
3-2 Key Sample Summary	28
3-3 Analytical Summary	29, 30, 31
5-1 Nearby Population Within One-Mile of the Site	38
5-2 Individuals Potentially Exposed to Air-borne Contaminants	39

LIST OF APPENDICES

APPENDIX

- A 4-MILE RADIUS MAP

- B TARGET COMPOUND LIST

- C IEPA SAMPLE PHOTOGRAPHS

- D AERIAL PHOTOGRAPHS
 1970 IDOT CL-801 Exp 7-63
 1988 IDOT MH-88 49-590
 1994 IDOT NAPP 49-590

- E U S EPA FORM 2070-13

LIST OF FIGURES

<u>FIGURE</u>	<u>PAGE</u>
2-1 Site Location Map	5
2-2 Site Topographic Map	6
3-1 Jo Daviess County Map	11
3-2 Sample and Photograph Location Map	13
3-3 Sample and Photograph Location Map	14
3-4 Monitor Well Information	22

1 INTRODUCTION

The Illinois Environmental Protection Agency (IEPA) requested on October 26, 1995 that the Jo Daviess ^{FARM} Service Company (JDSC) site be placed on the Comprehensive Environmental Responsive Compensation and Liability System (CERCLIS). This action was taken because of the potential for chemical substances associated with the operation of a petroleum storage and manufactured gas facilities to enter the environment and potentially endanger life and health of wildlife and human populations. The potential for adverse environmental impacts are due to the following factors. Several manufactured gas facilities operated on the property from at least 1856 until 1945. A petroleum storage facility operated on the property from 1946 until 1993. Past remedial activities, performed by JDSC in 1993, resulted in a large excavated pit and wastepile which still exist. Past monitor well sampling indicated groundwater contamination moving in the direction of a neighboring resident and the Galena River. The Galena River is located less than 200 feet from the JDSC property.

The JDSC site was evaluated in the form of a CERCLA Integrated Assessment, prepared by Mr. Bruce Everetts of Illinois EPA's Site Assessment Unit. The Integrated Assessment consisted of the preparation of a site specific work plan and PASCORE which was submitted to the Region V Office of the U.S. Environmental Protection Agency on November 3, 1995. The field activity portion of the Integrated Assessment was conducted on November 20 - 21, 1995. Other Integrated Assessment activities included interviews with site representatives, interviews with residents near the site, a reconnaissance inspection, and the collection of samples on and off the facility property.

The purpose of the Integrated Assessment has been developed from USEPA directive and

guidance information which outlines Site Assessment program strategies. The directive states

The Integrated Assessment will be conducted to:

- 1) Collect data which would satisfy both site assessment and remedial program activities. This would incorporate hazardous waste, surface water, air, and groundwater concerns.
- 2) The objectives of the assessment are to determine whether time or non time critical removals are warranted and to determine whether the site is National Priorities List (NPL) caliber. If the determination is made that the site is NPL caliber, additional data will likely be needed to complete the assessment. A sampling plan to accommodate removal and site assessment needs, as well as initial remedial needs, should be developed.
- 3) Determination of site sampling needs will be accomplished with an understanding to assure adequate data for the removal assessment and the preparation of the Hazard Ranking System (HRS) score, as well as the need for possible initial sampling for the remedial investigation. Based on the preliminary HRS score and removal program information, the site will then either be designated as No Further Action (NFA), or carried forward as an NPL listing candidate. Sites that are designated NFA or deferred to other statutes may not be candidates for an Integrated Assessment.
- 4) Upon completion of the data gathering, there will be a determination of whether the site should be forwarded within the Superfund process, either through the remedial or removal programs.

The initial assessment of the site as it enters the Superfund program within Region V will be conducted by either a Regional On-Scene Coordinator (OSC) and a Site Assessment Manager (SAM) or by State personnel. An OSC and a SAM will be assigned for all new sites entering the Regional Superfund program. If an emergency is found to occur, USEPA or State emergency removal staff will be immediately contacted for action. If the site needs further Superfund activities, a Site Assessment Team (SAT), comprised of the State, the SAM, the Regional Project Manager (RPM), and an OSC will be formed. As necessary, additional data can be generated for the SAT to make a recommendation to the Regional Decision Team (RDT) for further possible action.

The Integrated Assessment will address all the data requirements of the revised HRS using field screening and NPL level Data Quality Objectives (DQO's) prior to data collection. It will also provide needed data in a format to support remedial investigation work plan development. Only sites that appear to score high enough for NPL listing and that have not been deferred to another authority will receive an Integrated Assessment.

§
The Region V Offices of the U S Environmental Protection Agency have requested the Illinois Environmental Protection Agency identify sites during the Integrated Assessment investigation that may require removal action to remediate an immediate health and/or environmental threat.

A U S Environmental Protection Agency Removal Integrated Site Evaluation Form

which included site specific operations and waste characteristics was completed and forwarded to U S Environmental Protection Agency Regional Offices on October 26, 1995 On November 9, 1995 information concerning the site was discussed with U S Environmental Protection Agency, Chief of Emergency Response for Illinois, Mr Donald Bruce During the discussion, Mr Bruce was presented information concerning past activities on the property and potentially impacted areas It was the opinion of Mr Bruce that the site did not require any removal action nor the assignment of a USEPA Region 5 Removal Program On-Scene Coordinator (OSC)

Based on initial findings from the Integrated Assessment, and a conversation with Mr Bruce, it was determined that the site does not pose enough of an immediate threat to human health or the environment to warrant a response action Although no immediate removal threat is presently warranted, further investigation may provide additional information on the nature of the threat at this site In the event that future analytical information indicates the presence of a potential hazard to human health or the environment, this information will be presented to the Region 5 CERCLA Removal Program for reassessment of the site

2 SITE BACKGROUND

2.1 INTRODUCTION

This section includes information obtained over the course of the formal CERCLA Integrated Assessment and previous Illinois EPA activities involving this site Specific activities included an internal file search, a series of site representative interviews, field reconnaissance inspections, and a sampling visit at the facility and its surrounding area

2.2 SITE DESCRIPTION

From the mid 1940's to the early 1980's, the JDSC operated a bulk petroleum storage facility on six parcels of property in Galena, Illinois (Figure 2-1). The property includes lots 1, 2, 3, 4, 5, and 6 of Gears Second Addition within Section 24, Township 28 North, Range 1 West of the fourth principle meridian in Jo Daviess County (Figure 2-2). The property occupies approximately 1.1 acres and is situated in a sparsely populated location of southern Galena as it is bordered by railroad tracks to the north and west, South Water Street to the east, and one residential dwelling to the south. The Galena River flows in a north to south direction and is located approximately 200 feet east of the property. The Galena River flows from this location for an additional four miles before entering the Mississippi River near Portage, Illinois.

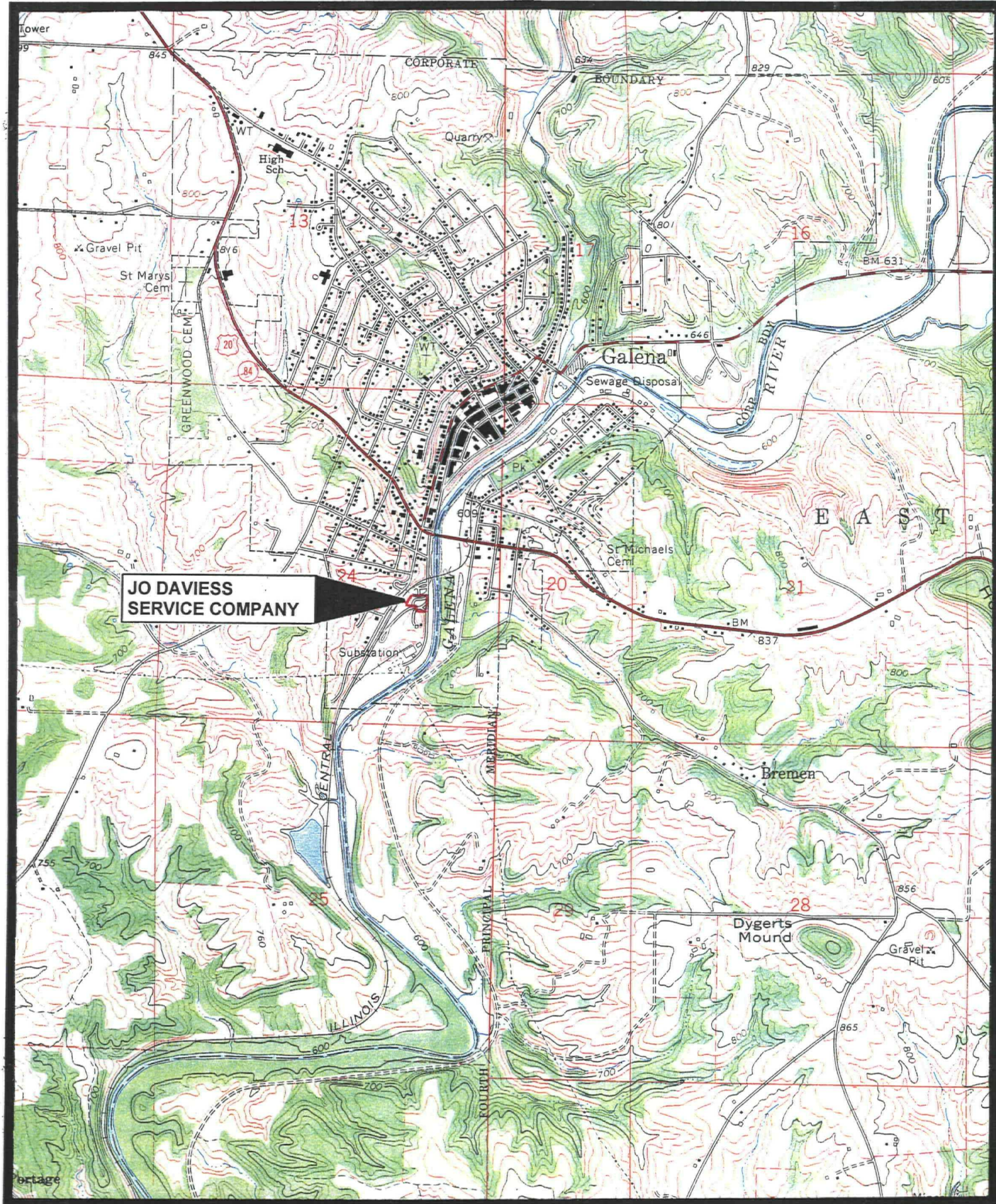
A remedial investigation was performed in 1993 for the JDSC by Dahl and Associates (DAHL). The investigation produced an excavated area located along the northern portions of lots 4 and 5. Aerial photographs from 1970 and 1988 (Appendix D) illustrate, these lots also contained the above ground tanks utilized for the storage of petroleum products by the JDSC. The excavations resulted in an irregularly shaped pit approximately 6 feet deep and 25 feet in diameter. The soil from the excavation was placed to the south of the pit forming a pile approximately 90 feet long, 40 feet wide, and 4 feet high. The pit and wastepile still remain.

The topography of the JDSC property consists of level terrain with the exception of two disturbed areas resulting from 1993 remedial activities by DAHL. No buildings or other structures remain on the property. Surface soils consist mostly of cinders in the western portion of the property while the eastern side contains bricks, cinders, and other building debris. The JDSC property is elevated approximately 10 - 15 feet above the Galena River, which is located

JO DAVIESS *FARM*
SERVICE COMPANY



FIGURE 2-1
SITE LOCATION MAP



SITE TOPOGRAPHIC MAP

FIGURE 2-2

SCALE: 1:24,000

directly east The closest resident is located approximately 220 feet south of the JDSC property

2.3 SITE HISTORY

According to information from the Jo Daviess County tax assessor, the property in question was acquired by the Galena Gas Light Company on June 18, 1856 Historical Sanborn Fire Insurance Maps (Sanborns) indicate the JDSC property has been utilized by different industries since 1856 From 1856 until 1945, the property was the site of several Manufactured Gas Plants (MGP's) which included Galena Gas Light Company, Gas Light Company of Galena, Northwestern Illinois Utilities, and Northwestern Illinois Gas and Electric Company Information from the Electric Power Research Institute (EPRI) Journal indicate coal and oil was used primarily for the production of gas The coal was heated which produced a hot gas containing hydrogen, carbon monoxide, and sulfur compounds The gas was collected and subsequently sold to customers throughout Galena The heating of coal also produced large quantities of by-products such as coal tars, sludges, oils and others Wells, pits, and ponds were constructed to contain these by-products Sanborns indicate one tar well and a pond were present on the property from at least 1885 until 1924 Other tar wells may have existed but their exact locations are not known

In 1945, the JDSC purchased the property and operated a bulk petroleum storage facility until 1993 The bulk storage facility consisted primarily of five above ground storage tanks which are no longer present According to the JDSC, the above ground storage tanks were located on lots 4 and 5 and were utilized for the storage of diesel, gasoline, and fuel oil The JDSC is still in operation at other locations throughout Jo Daviess County

On June 21, 1993, Illinois EPA's Rockford Regional Office inspected the JDSC property. Following the IEPA inspection, violations at the JDSC property were listed as causing or allowing the dumping of fuel on-site and operating a solid waste management site without a permit granted by the Agency. The JDSC retained the services of DAHL to address the violations, dismantle the former bulk storage facility, and remove any petroleum impacted soil from this location. An estimated 250 cubic yards of contaminated soil was removed resulting in a large pit and subsequent wastepile. The investigation also included test pit installation and soil sampling, monitor well installation, and a formal report. During the investigation, information became available which suggested the property was once occupied by several MGP's dating back to 1856. DAHL concluded the contaminants detected in the subsurface soils were a result of the past operation of MGP's and there was a high potential for off site migration. No additional remedial activities have occurred at this site since 1993.

2.4 APPLICABILITY OF OTHER STATUTES

The JDSC property at Galena, Illinois was used for different industrial purposes since the 1850's. According to Illinois EPA file information, the facility was not classified as a treatment, storage, or disposal facility under RCRA. Given its years of operation, and the fact that many of the existing state and federal environmental regulations did not come into existence until the late 1970's and early 1980's, it is most likely that this facility was not subject to Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA), Atomic Energy Act (AEA), or Uranium Mine Tailings Radiation Control Act (UMTRCA).

3 SITE INSPECTION AND ANALYTICAL RESULTS

3.1 INTRODUCTION

This section outlines procedures utilized and observations made during the field investigation portion of the CERCLA Integrated Assessment, conducted at the JDSC site. Individual subsections address the site representative interview, reconnaissance inspection, field sampling procedures, analytical results, and key sample summary. The Integrated Assessment for JDSC was conducted in accordance with the work plan which was developed and submitted to the USEPA Region V Offices prior to the initiation of field activities.

The U.S. Environmental Protection Agency Potential Hazardous Waste Site Inspection Report (Form 2070-13) for JDSC is provided in Appendix E of this report.

3.2 SITE REPRESENTATIVE INTERVIEW

On October 31, 1995, Mr. Bruce Everetts of Illinois EPA's Site Assessment Unit met with Mr. Marion Ertmer, Manager of the JDSC. The meeting was held to discuss past, present, and future activities at the JDSC property. During the interview, Mr. Everetts explained the Integrated Assessment process, and pointed out proposed sample locations. The sampling plan consisted of the collection of soil, sediment, groundwater, and surface water samples located in and around the vicinity of the JDSC property. Tentative dates for the field investigation portion of the CERCLA Integrated Assessment were also discussed.

3.3 RECONNAISSANCE INSPECTION

The first of two reconnaissance inspections were conducted at the Galena facility on

October 31, 1995 by Mr Bruce Everetts During this inspection, a walk through of the property was conducted to identify potential areas in which contamination may exist Using past Sanborn Fire Insurance Maps and aerial photographs of the area, locations of buildings, tanks, and tar wells were tentatively located The excavated pit, wastepile, and monitor wells were also located and identified as potential sample locations

The JDSC property can be accessed by traveling south from Route 20, on South Water Street for approximately 1000 feet (Figure 3-1) From South Water Street, several small gravel roads enter the JDSC property No buildings, tanks, or other structures remain from the once active petroleum storage facility and access to the property was found not to be restricted

According to Mr Ertmer, the JDSC property has remained in relatively the same condition since the remedial activities were performed by DAHL in 1993 The investigation was originally conducted to determine the extent of soil contamination resulting from 48 years of operating a bulk petroleum storage facility During the investigation, information became available which suggested several different MGP's operated at the same location dating back to at least 1856 With that information, the JDSC identified a Potential Responsible Party (PRP) and attempted to encourage their participation in the soil remediation at the property At the time of this CERCLA Integrated Assessment report, no additional activities have taken place by either party

Prior to sampling on November 20, 1995 another brief inspection of the JDSC property was performed by Illinois EPA's Site Assessment Unit Site conditions did not change greatly since observations made on October 31, 1996 Also present during this site reconnaissance were Mr Mark Densmore, Mr Brad Taylor, Mr Ken Corkill, and Mr Pete Sorensen of Illinois EPA's

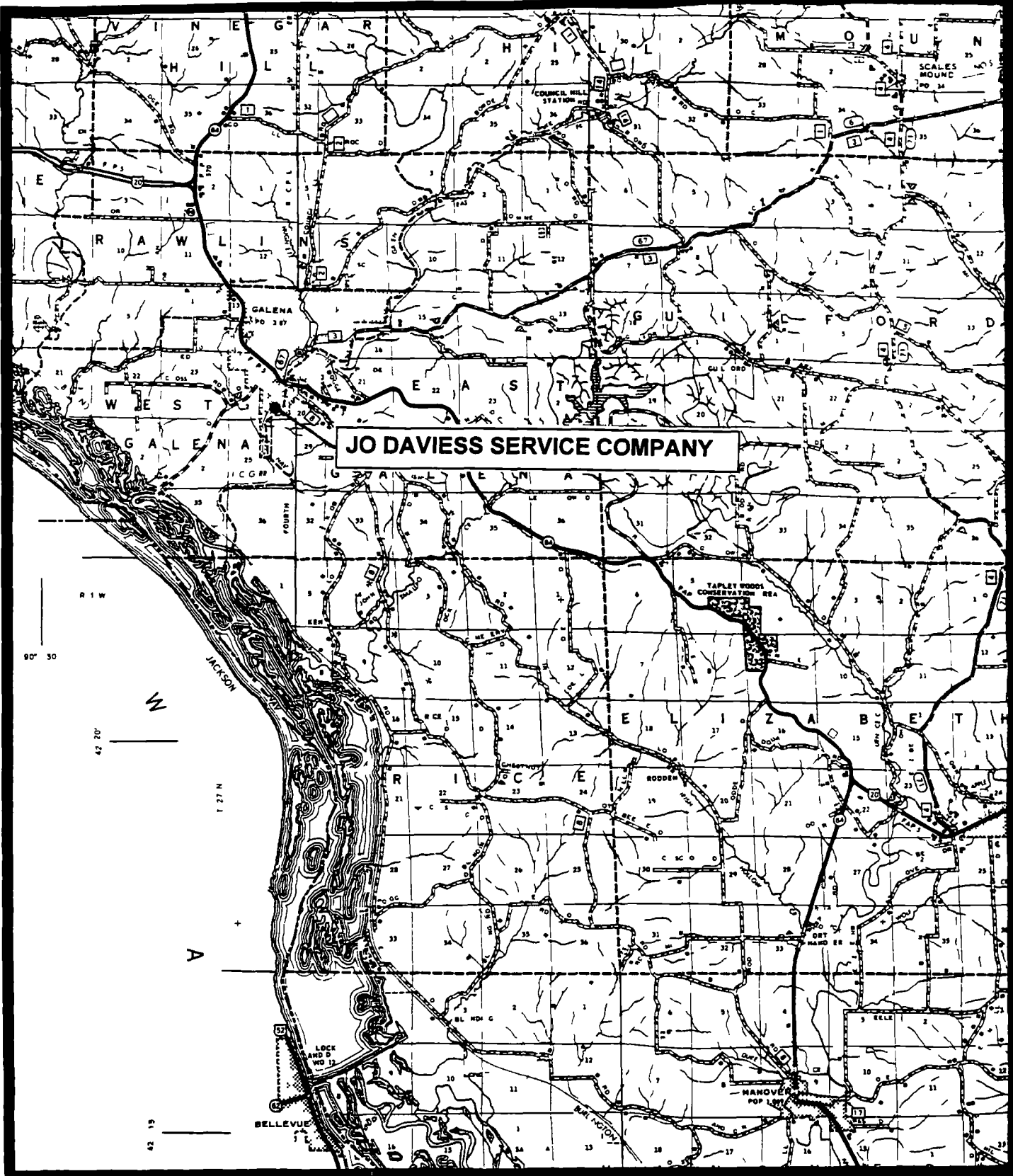


FIGURE 3-1
JO DAVIESS COUNTY GENERAL HIGHWAY MAP

SCALE 0 1 2 3 4 miles

Site Assessment Unit Representing the JDSC was Mr Mick Gronewald from Fehr-Graham and Associates

3.4 SOIL/SEDIMENT, SURFACE WATER, AND GROUNDWATER SAMPLING

During the field investigation portion of the CERCLA Integrated Assessment, samples were collected to determine levels of USEPA Target Compound List (TCL) analytes present at and around the facility. The TCL is provided in Appendix B and volume 2 of the Integrated Assessment Final Report. On November 20 - 21, 1995 Illinois EPA personnel collected seven soil samples, five sediment samples, five surface water samples, six groundwater samples from monitor wells, and two groundwater samples from a residential well. The sample locations are illustrated in Figures 3-2 and 3-3. The JDSC chose to split a portion of investigative samples

3.5 SOIL/SEDIMENT SAMPLING PROCEDURES

Seven soil and five sediment samples were collected during the sampling event conducted November 20 - 21, 1995. These samples were collected to determine if contamination existed at locations within and outside of the JDSC property. Samples at each location were placed into their respective glass containers in the following manner: volatile jars filled first, semi-volatile organic jars second, and inorganic jars third. After sampling each location all sample containers were capped with their respective lids and placed in coolers.

Sample X101 was located 40 feet east of South Water Street and 20 feet north of a small creek just north of the JDSC property. The area was selected due to its similarity in soil type with that found on the JDSC property and its proximity to the other soil sample locations. The

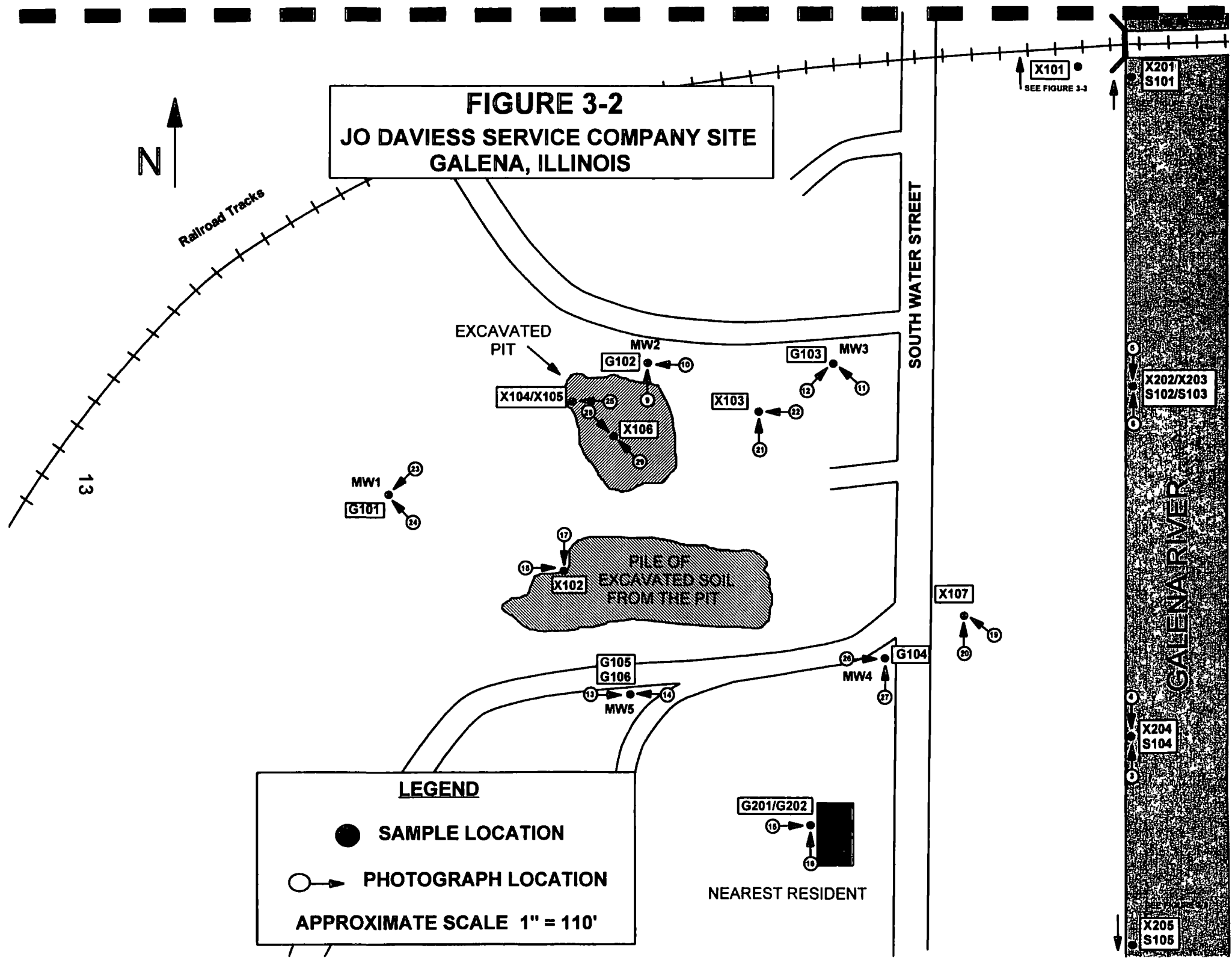
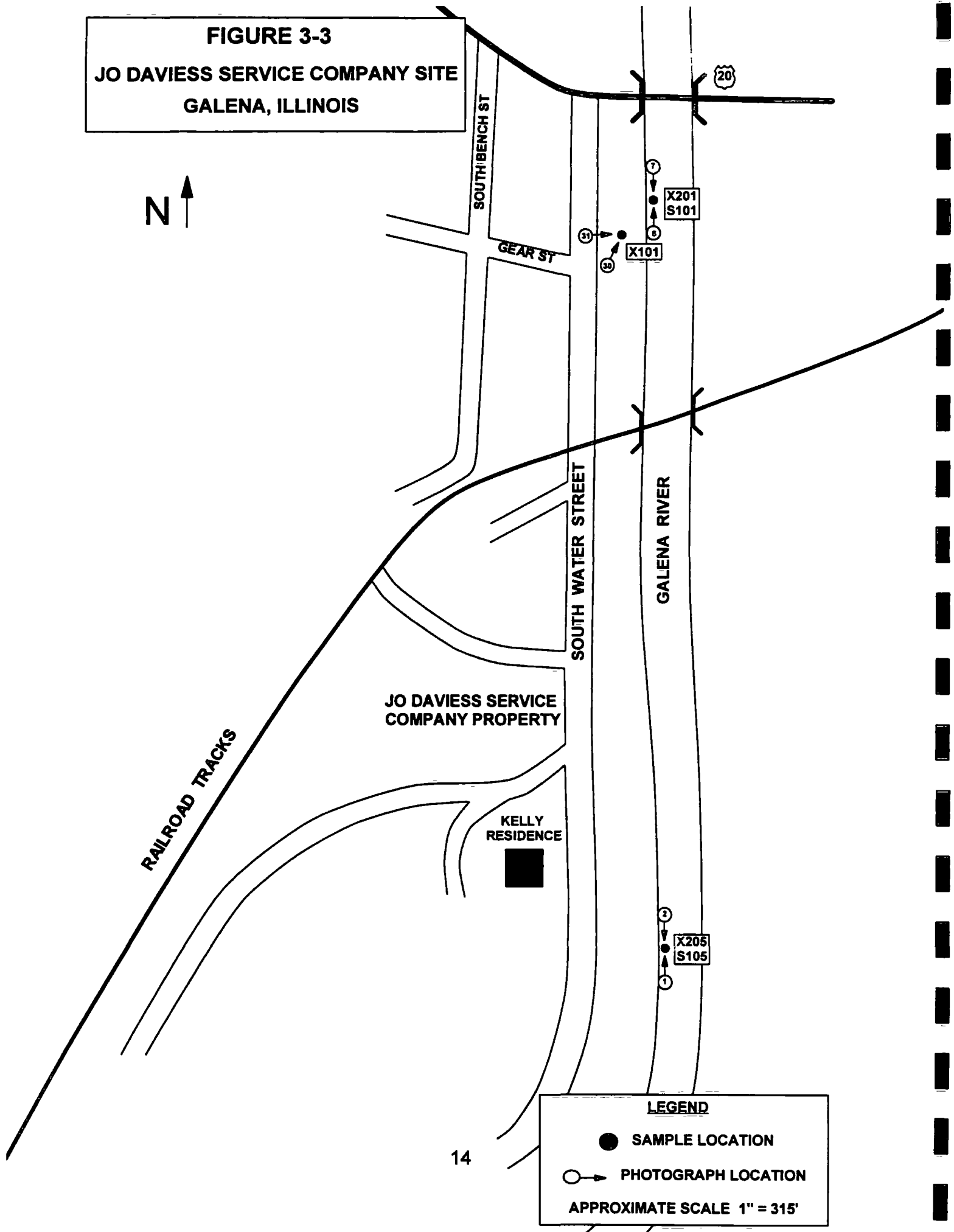


FIGURE 3-3
JO DAVIESS SERVICE COMPANY SITE
GALENA, ILLINOIS



purpose of this location was to obtain a representative background soil sample. This sample was obtained using a stainless steel trowel from a depth of 4 - 9 inches. Air monitoring was performed by the use of a Foxboro Toxic Vapor Analyzer Model 1000. No meter readings, above background concentrations, for either the PID (photo ionization detector) or FID (flame ionization detector) were obtained. All subsequent samples were also monitored. Sample appearance was a dark brown, silty clay loam.

Sample X102 was located 42 feet north of an east-west gravel road and 67 feet north of monitor well 5. This sample was located along the northern slope of a pile of excavated soil situated along the southern portion of the JDSC property. The pile of soil was a result of the 1993 remedial activities performed by DAHL. The purpose of obtaining this sample was to determine if contamination existed within the contents of the wastepile. The sample was obtained using a stainless steel trowel, from a depth of 1 ½ - 2 feet. The sample appearance was a dark brown/black urban fill.

Sample X103 was located 60 feet southwest of monitor well 3 and 50 feet southeast of monitor well 2 along the eastern portion of the JDSC property. The area was located near the previous location of the bulk petroleum storage tanks. The sample was collected to determine if contamination existed in the upper two feet of soil. Using a stainless steel auger, the sample was taken in the 1 ½ - 2 foot range of soil. Appearance of the sample was a dark brown cindery, silty clay. Beneath the 2 foot range, the soil became cluttered with bricks, metal, and other debris.

Sample X104 was located 38 feet southwest of monitor well 2 and an estimated 117 feet north of monitor well 5. The sample was collected from a vertical wall of the western side of the

excavated pit on the JDSC property. From the wall of the pit, the sample was collected in order to determine if contamination existed within the pit. A stainless steel trowel was used to obtain a sample at a depth of 1 - 1 ½ feet. The sample appeared to contain a black cindery loam with pieces of orange brick.

Sample X105 was a duplicate sample of X104. Soil that was obtained for X104 and X105 was placed into a stainless steel pan, mixed thoroughly, then placed alternately into jars for both X104 and X105.

Sample X106 was located 42 feet southwest of monitor well 2 and 102 feet north of monitor well 5 in the bottom of the excavated pit. The excavated pit was approximately 6 to 8 feet below the surrounding terrain at this sample location. The sample was obtained at a depth of 1 - 1 ½ feet into the bottom of the pit using a stainless steel auger. Air monitoring of the sample revealed a reading of 1200 ppm on the flame ionization detector. The sample had an appearance of a dark brown sandy clay.

Sample X107 was located 12 feet east of South Water Street in direct line with a drainage pipe beneath the street. The drainage pipe was sloped toward the east, thus providing a route for excess surface water and sediments from the JDSC property to be carried toward the Galena River. At the time of sample collection, a small amount of water was flowing from the drainage pipe. The sample was obtained using a stainless steel trowel from 1 - 5 inches below the surface. The appearance of the sample was a dark brown silty loam containing small pieces of gravel.

Sample X201 was located 400 feet north of the railroad bridge and 6 feet east of the west bank of the Galena River. This sample was situated approximately 800 feet upstream from the

JDSC property The purpose of sampling this location was to obtain a representative background sediment sample The sample was obtained using a stainless steel auger from the surface to a depth of 8 inches beneath 1 foot of water The appearance of the sample was a dark brown fine silt with some compaction

Sample X202 was located an estimated 300 feet south of the railroad bridge and 13 feet east of the west bank of the Galena River The location was beneath 2 feet of water within the Galena River and an estimated 175 feet directly east of the JDSC property The purpose of taking this sample was to determine if hazardous constituents were present within the sediments of the Galena River Using a stainless steel auger the sample was obtained in the upper 8 inches of sediment Sample appearance was a fine dark brown silt

Sample X203 was a duplicate sample of X202 Sediments that were obtained for X202 and X203 were placed in a stainless steel pan, mixed thoroughly, then placed alternately into jars for both X202 and X203

Sample X204 was located an estimated 600 feet south of the railroad bridge and 4 feet east of the west bank of the Galena River The purpose for taking this sample was to determine if hazardous constituents existed within the river sediments at a location approximately 100 feet south of the JDSC property The sample was obtained using a stainless steel auger to a depth of 0 - 8 inches of sediment beneath approximately 1 ½ foot of water The sample had an appearance of a dark brown, fine silt with a small amount of sand

Sample X205 was located an estimated 1000 feet south of the railroad bridge and 6 feet east of the west bank of the Galena River This sample was located approximately 700 feet downstream from the JDSC property Beneath 1 - 1 ½ feet of water the sample was collected in

the upper 8 inches of sediment using a stainless steel auger. Sample appearance was a dark brown, tight silty clay.

All soil and sediment samples were analyzed for the Target Compound List constituents which can be found in Appendix B and in volume 2 of this report. Soil and sediment samples which were to be analyzed for organic constituents were delivered to Illinois EPA's Division of Laboratories in Springfield, Illinois on November 21, 1995. Those samples requiring inorganic analysis were delivered to Illinois EPA's Division of Laboratories in Champaign, Illinois on November 22, 1995. Photographs of the site and sample points are provided in Appendix C (see Figures 3-2 and 3-3 for photograph location maps).

Standard Illinois EPA decontamination procedures were followed prior to the collection of all samples. All sampling equipment was previously decontaminated prior to its transport to the site. Decontamination procedures included the cleaning of all equipment with a liquid Alconox solution, rinsing with hot tap water, rinsing with a 50% mixture of Alconox and water, rinsing with hot tap water again, and with distilled water as a final rinse. All equipment was either dried with paper towel or air dried, then wrapped and stored in heavy aluminum foil. Field decontamination procedures include all of the above except the hot tap water rinse.

3.6 SURFACE WATER SAMPLING PROCEDURES

Five surface water samples were collected during the sampling event conducted on November 20 - 21, 1995. These samples were collected to determine if contamination existed within surface waters of the Galena River. Samples at each sample point were placed into their respective glass containers in the following manner: volatile jars filled first, semi-volatile

organic jars second, and inorganic jars third. After sampling each location, preservatives were added to sample containers which required them, capped with their respective lids, then placed in coolers.

Sample S101 was located an estimated 400 feet north of the railroad bridge and 6 feet east of the west bank of the Galena River. This sample was collected from the waters of Galena River approximately 800 feet upstream from the JDSC property and one foot below the water surface. The purpose of sampling this location was to obtain a representative background surface water sample. The sample was obtained with a stainless steel bacon bomb sampler and collected from the same location as sediment sample point X201.

Sample S102 was located an estimated 300 feet south of the railroad bridge and 13 feet west of the east bank of the Galena River. From the surface waters of the Galena River, the sample was collected two feet below the water surface directly east of the JDSC property. This sample was collected to determine if the surface waters of the Galena River may contain hazardous constituents as a result of the presence of past activities on the JDSC property. Using a stainless steel bacon bomb sampler the sample was collected from the general location of sediment sample point X202.

Sample S103 was a duplicate sample of S102. Surface water was collected alternately for S102 and S103 in the previously described sequence.

Sample S104 was located an estimated 600 feet south of the railroad bridge and 4 feet east of the west bank of the Galena River. The sample was obtained from 1 - 1 ½ feet below the surface within the Galena River at a location approximately 100 feet downstream from the JDSC property. A stainless steel bacon bomb sampler was used to collect the surface water sample.

from the coinciding sediment sample location X204

Sample S105 was located an estimated 1000 feet south of the railroad bridge and 6 feet east of the west bank of the Galena River. From the surface waters of the Galena River, the sample was obtained from 6 - 8 inches below the water surface and approximately 700 feet south of the JDSC property. The sample was collected in order to determine if hazardous constituents may be present downstream of the JDSC property. This sample was collected in a similar location as sediment sample X205 and was obtained with a stainless steel bacon bomb sampler.

All surface water samples were analyzed for the Target Compound List constituents which can be found in Appendix B and in volume 2 of this report. Surface water samples which were to be analyzed for organic constituents were delivered to Illinois EPA's Division of Laboratories in Springfield, Illinois on November 21, 1995. Those samples requiring inorganic analysis were delivered to Illinois EPA's Division of Laboratories in Champaign, Illinois on November 22, 1995. Photographs of the site and sample points are provided in Appendix C (see Figures 3-2 and 3-3 for photograph location maps).

Standard Illinois EPA decontamination procedures were followed prior to the collection of all samples. The bacon bomb sampler was previously decontaminated prior to its transport to the site. Decontamination procedures included the cleaning of all equipment with a liquid Alconox solution, rinsing with hot tap water, rinsing with a 50% mixture of Alconox and water, rinsing with hot tap water again, and with distilled water as a final rinse. All equipment was either dried with paper towel or air dried, then wrapped and stored in heavy aluminum foil. Field decontamination procedures include all of the above except the hot tap water rinse.

3.7 GROUNDWATER SAMPLING PROCEDURES

On November 20 -21, 1995 eight groundwater samples were collected from five monitor wells and one residential well. The five monitor wells were previously installed by DAHL in 1993 and were located to the north, west, and south of the JDSC property. The wells were installed at varying depths ranging from 14 - 18 feet below the surrounding terrain. During CERCLA Integrated Assessment activities, water was detected in the monitor wells at depths ranging from 10.8 to 14.3 feet below the surface of the land. Each monitor well was purged by extracting five volumes of water from each. If a monitor well became dry before five volumes of water were obtained, the well was considered purged. Only monitor well 5 produced a complete five volumes of water. Monitor wells 1 and 4 did not supply enough groundwater to obtain a complete sample thus, the sample containers for G101 and G104 were only partially filled. The groundwater from monitor well 4 had a cloudy, turbid appearance and emitted a smoky odor which resulted in an elevated FID reading. The samples were placed into their respective bottles in the following sequence: volatile vials filled first, semi-volatile organic bottles second, and inorganic bottles third. All bottles requiring the addition of preservatives had them added, after which, all sample containers were capped with their respective lids and placed in coolers immediately after obtaining the sample. Prior to placement into its respective sample container, the sample requiring total metal analysis was filtered using a 5 micron filter and a peristaltic pump. The locations of each monitor well and their respective depths are illustrated in Figure 3-4.

Using a 1970 aerial photograph, the residential well (G201/ G202) was estimated to be 220 feet south of the southern boundary of the JDSC property. This residential location is also

N

FIGURE 3-4

MONITOR WELL SAMPLE LOCATION AND DEPTH INFORMATION

Railroad Tracks

EXCAVATED
PIT

MW2

G102

MW3

G103

SOUTH WATER STREET

MW1

G101

PILE OF
EXCAVATED SOIL
FROM THE PIT

MW5

G105
G106

MW4

G104

NEAREST RESIDENT

GALENA RIVER

22

MONITOR WELL INFORMATION

WELL NO#	WATER DEPTH	TOTAL DEPTH
1	10 76 ft.	14 56 ft.
2	14 30 ft.	18 80 ft.
3	14 28 ft.	18 31 ft.
4	11 97 ft.	18 57 ft.
5	12 33 ft.	18 87 ft.

located approximately 50 feet above the surrounding terrain of the JDSC property. According to information obtained from the land owner, the well is approximately 110 feet in total depth. Since the residential dwelling is elevated approximately 50 feet above the surrounding terrain, the well is estimated to be about 60 feet below the surface of the JDSC property. The well was purged for 15 minutes during which time pH, conductivity, and temperature were measured. Once the pH, conductivity, and temperature were allowed to stabilize, the sample was collected. The samples were placed into their respective bottles in the following sequence: volatile vials filled first, semi-volatile organic bottles second, and inorganic bottles third. All bottles requiring the addition of preservatives had them added, after which, all sample containers were capped with their respective lids and placed in coolers immediately after obtaining the sample.

All groundwater samples were analyzed for the Target Compound List constituents which can be found in Appendix B and in volume 2 of the Integrated Assessment report. Those which were to be analyzed for organic constituents were delivered to Illinois EPA's Division of Laboratories in Springfield, Illinois on November 21, 1995. Those samples requiring inorganic analysis were delivered to Illinois EPA's Division of Laboratories in Champaign, Illinois on November 22, 1995. Photographs of the site and sample points are provided in Appendix C (see Figures 3-2 and 3-3 for photograph location maps).

3.8 ANALYTICAL RESULTS

This section includes a summary of the analytical results of samples collected during the CERCLA Integrated Assessment conducted at the JDSC site in Galena, Illinois. As previously mentioned, Illinois EPA's Division of Laboratories were utilized for organic and inorganic

sample analysis. A quality assurance review of the sample analyses was also performed by Illinois EPA's Division of Laboratories.

ANALYTICAL RESULTS OF IEPA COLLECTED SAMPLES

Chemical analysis of soil and sediment samples collected by Illinois EPA personnel revealed the presence of volatile, semi-volatile, pesticides, heavy metals, common laboratory artifacts, and common soil constituents at the JDSC site. Table 3-1 contains a physical description, location, and depth of each sample. Table 3-3 contains a summary of soil/sediment sample chemical analysis. Complete laboratory analytical data of JDSC sample analysis are provided in Appendix F (under separate cover as volume 2).

Elevated levels of semi-volatile constituents were detected in soil samples X102, X104/X105, and X106. High levels of volatile compounds were detected in soil sample X106. As mentioned previously, these soil samples were collected from locations associated with excavations performed during 1993 remedial activities performed by DAHL. Sample X102 was taken from the pile of soil excavated from the pit. Samples X104/X105 and X106 were collected from the base and wall of the pit. None of the soil samples taken during the Integrated Assessment of the JDSC site contained contaminant levels which exceeded CERCLA Removal Action Levels or Illinois EPA's Tiered Approach To Cleanup Objectives.

Groundwater Sample G104 was collected from a monitor well located along the southeastern boundary of the JDSC property. The monitor well was approximately twelve feet below the surface and documented that a release to groundwater has occurred. Analysis of G104 indicated elevated levels of volatile and semi-volatile constituents. Levels of Benzene, Toluene,

Phenol, 2,4-Dimethylphenol, Naphthalene, and bis(2-Ethylhexyl)phthalate exceeded groundwater cleanup objectives set forth by Illinois EPA's Tiered Approach to Cleanup Objectives

None of the sediment, surface water, or residential water samples indicated contaminants significantly above background levels

3.9 KEY SAMPLES

The following table (Table 3-2) identifies the key samples obtained during the JDSC Integrated Assessment and contain contaminants at least three times greater than background levels. For a review of contaminants detected in all samples, reference Table 3-3, Analytical Results, located after Tables 3-1 and 3-2 in this section.

4 IDENTIFICATION OF SOURCES

4.1 INTRODUCTION

This section discusses the hazardous waste sources which have been identified at the JDSC site during the initial stages of the CERCLA Integrated Assessment.

Information concerning size, volume, waste type, and waste composition of each source is compiled during the initial CERCLA Site Assessment and subsequent Integrated Assessment. The sources identified during the Integrated Assessment is a wastepile and contaminated soil. Further investigation of the site may lead to the discovery of new sources or provide additional information characterizing the currently identified sources.

TABLE 3-1
SAMPLE DESCRIPTIONS
SOIL SAMPLES

SAMPLE	DEPTH	APPEARANCE	LOCATION
X101 (Soil Background)	4 - 9	Dark brown silty clay loam	North of the facility east of South Water Street 40 feet east of South Water Street and 20 feet north of a small creek (flowing east-west)
X102	1.5 - 2	Black/ Dark brown urban fill	On the north slope of the wastepile which is a result of a 1993 Site Assessment. 42 feet north of the east- west of gravel road and 67 feet north of Monitor Well #5
X103	1.5 - 2	Dark brown cindery silty clay	Along the eastern portion of the Jo Daviess SC property 60 feet south-west of Monitor Well #3 and 50 feet south-east of Monitor Well #2
X104	1 - 1.5	Black cindery loam with pieces of orange brick	Along the south western wall of the excavated pit 38 feet south-west of Monitor Well #2 and an estimated 117 feet north of Monitor Well #5
X105	duplicate sample of X104		
X106	1 - 1.5	Dark brown sandy clay FID - 1200 ppm	From the bottom of the excavated pit. 42 feet south- west of Monitor Well #2 and 102 feet north of Monitor Well #5
X107	1 - 5	Dark brown silty loam with gravel	East of the Jo Daviess SC property 12 feet east of South Water Street in direct line with a drainage pipe under South Water Street.

SEDIMENT SAMPLES

SAMPLE	DEPTH	APPEARANCE	LOCATION
X201 (Sediment Background)	0 - 8	Dark brown fine silt, somewhat compacted	Along the Galena River upstream of the property 400 feet north of the railroad bridge and 6 feet east of the west bank of the Galena River beneath 1 foot of water
X202	0 - 8	Fine dark brown silt	Along the Galena River east of the property An estimated 300 feet south of the railroad bridge and 13 feet east of the west bank of the Galena River beneath 2 feet of water
X203	duplicate sample of X202		
X204	0 - 8	Dark brown fine silt with a small amount of sand	Along the Galena River downstream of the property An estimated 600 feet south of the railroad bridge and 4 feet east of the west bank of the Galena River beneath 1.5 feet of water
X205	0 - 8'	Dark brown tight silty clay	Along the Galena River downstream of the property An estimated 1000 feet south of the railroad bridge and 6 feet east of the west bank of the Galena River beneath 1 - 1.5 feet of water

FIGURE 3-1**SURFACE WATER SAMPLES**

SAMPLE	DEPTH	APPEARANCE	LOCATION
S101 (Surface Water Background)	1 bws	Cloudy and odorless	Along the Galena River upstream of the property 400 feet north of the railroad bridge and 6 feet east of the west bank of the Galena River
S102	2 bws	Cloudy and odorless	Along the Galena River east of the property An estimated 300 feet south of the railroad bridge and 13 feet west of the east bank of the Galena River
S103	duplicate sample of S102		
S104	1 - 15 bws	Cloudy and odorless	Along the Galena River downstream of the property An estimated 600 feet south of the railroad bridge and 4 feet east of the west bank of the Galena River
S105	6 - 8" bws	Cloudy and odorless	Along the Galena River downstream of the property An estimated 1000 feet south of the railroad bridge and 6 feet east of the west bank of the Galena River

*bws - below water surface

MONITOR WELL SAMPLES

SAMPLE	DEPTH	APPEARANCE	LOCATION
G101 (Monitor Well Background)	10 76 bls	Slightly turbid Slightly elevated PID reading	Monitor Well #1 (Monitor Well #1 from 1993 DAHL Report)
G102	14 3 bls	Slightly turbid	Monitor Well #2 (Monitor Well #3 from 1993 DAHL Report)
G103	14 28 bls	Heavily turbid	Monitor Well #3 (Monitor Well #5 from 1993 DAHL Report)
G104	11 97 bls	Dark and cloudy with little turbidity Slightly elevated FID reading	Monitor Well #4 (Monitor Well #4 from 1993 DAHL Report)
G105	12 33 bls	Slightly turbid	Monitor Well #5 (Monitor Well #2 from 1993 DAHL Report)
G106	duplicate sample of G105		

*bls - below land surface

RESIDENTIAL WELL SAMPLE

SAMPLE	DEPTH	APPEARANCE	LOCATION
G201	est. 110 bls	Clear and odorless	Residential dwelling located approximately 220 feet south of the Jo Daviess SC property
G202	duplicate sample of G201		

*bls - below land surface

TABLE 3-2
KEY SAMPLE SUMMARY

SOIL SAMPLES

SAMPLING POINT DATE COLLECTED	X101 11-21-95 soil background	X102 11-20-95	X103 11-21-95	X104 11-21-95	X105 4 pints (X104)	X106 11-21-95	X107 11-20-95
PARAMETER							
VOLATILES							
Benzene	13 0 U	--	--	--	--	3000 0 J	--
Ethylbenzene	13 0 U	--	--	--	--	33000 0 DJ	--
Xylene(total)	13 0 U	--	--	--	--	84000 0 DEJ	--
	(ppb)	(ppb)	(ppb)	(ppb)	(ppb)	(ppb)	(ppb)
SEMIVOLATILES							
Naphthalene	440 0 U	--	--	--	2300 0	13000 0	--
2-Methylnaphthalene	440 0 U	--	--	4900 0	8000 0	17000 0	--
Phenanthrene	440 0 U	--	--	4000 0	4500 0	2900 0	--
Fluoranthene	150 0 J	3300 0	--	3400 0	3200 0	--	--
Pyrene	92 0 J	2300 0	--	2000 0 J	2000 0 J	--	--
Benzo(a)anthracene	440 0 U	3800 0	--	4000 0	4000 0	--	--
Chrysene	440 0 U	2800 0	--	3000 0	3000 0	--	--
Benzo(b)fluoranthene	440 0 U	5900 0 J	--	4300 0	--	--	--
Benzo(a)pyrene	440 0 U	4200 0	--	5700 0	5000 0	--	--
	(ppb)	(ppb)	(ppb)	(ppb)	(ppb)	(ppb)	(ppb)

MONITOR WELL SAMPLES

SAMPLING POINT DATE COLLECTED	G101 11-21-95 monitor well background	G102 11-20-95	G103 11-20-95	G104 11-21-95	G105 11-20-95	G106 duplicate of G105
PARAMETER						
VOLATILES						
Acetone	10 0 UJ	--	--	320 0 J	--	--
2-Butanone (MEK)	10 0 U	--	--	150 0 J	--	--
Benzene	10 0 U	--	--	21000 0 J	--	--
Toluene	10 0 U	--	--	5000 0 J	--	--
Ethylbenzene	10 0 U	--	--	170 0 J	--	--
Xylene(total)	10 0 U	--	--	2100 0 J	--	--
	(ppb)	(ppb)	(ppb)	(ppb)	(ppb)	(ppb)
SEMIVOLATILES						
Phenol	10 0 U	--	--	2700 0 J	--	--
2-Methylphenol	10 0 U	--	--	8200 0 J	--	--
4-Methylphenol	10 0 U	--	--	60000 0	--	--
2,4-Dimethylphenol	10 0 U	--	--	16000 0	--	--
Naphthalene	10 0 U	--	--	1100 0 E	--	--
2-Methylnaphthalene	10 0 U	--	--	140 0	--	--
Phenanthrene	10 0 U	--	--	120 0	--	--
bis(2-Ethylhexyl)phthalate	14 0	65 0	42 0	120 0	--	--
	(ppb)	(ppb)	(ppb)	(ppb)	(ppb)	(ppb)
INORGANICS						
Manganese	22 7	6990 0	--	INSUFFICIENT	1060 0	1060 0
Sodium	4850 0 B	46900 0	371000 0	VOLUME FOR	--	--
	(ppm)	(ppm)	(ppm)	SAMPLE	(ppm)	(ppm)
				ANALYSIS		

LIST OF DATA QUALIFIERS

- | | |
|--|--------------------------------|
| U - compound was not detected | D - diluted sample |
| J - estimated value | E - exceeded calibration range |
| B - analyte was found in the blank as well as the sample | |

TABLE 3--3
ANALYTICAL RESULTS

MONITOR WELL SAMPLES

SAMPLING POINT DATE COLLECTED	G101 11-21-95	G102 11-20-95	G103 11-20-95	G104 11-21-95	G105 11-20-95	G106 duplicate of G103
monitor well background						
PARAMETER						
VOLATILES						
Acetone	100 U	--	--	3200 J	--	--
1,2-Dichloroethane	100 U	60 J	--	--	--	--
2-Butanone (MEK)	100 U	--	--	1500 J	--	--
Benzene	100 U	--	--	21000 J	--	--
4-Methyl-2-Pentanone	100 U	--	--	110 J	--	--
2-Hexanone	100 U	--	--	290 J	--	--
Toluene	100 U	--	--	5000 J	--	--
Ethylbenzene	100 U	--	--	1700 J	--	--
Xylene(total)	100 U	--	--	2100 J	--	--
	(ppb)	(ppb)	(ppb)	(ppb)	(ppb)	(ppb)
SEMIVOLATILES						
Phenol	100 U	--	--	2700 J	--	--
2-Methylphenol	100 U	--	--	8200 J	--	--
4-Methylphenol	100 U	--	--	60000 J	--	--
2,4-Dimethylphenol	100 U	--	--	16000 J	--	--
Naphthalene	100 U	--	--	1100 E	--	--
2-Methylnaphthalene	100 U	--	--	140 J	--	--
Acenaphthylene	100 U	--	--	40 J	--	--
Dibenzofuran	100 U	--	--	48 J	--	--
Diethylphthalate	100 U	--	--	--	--	20 J
Fluorene	100 U	--	--	65 J	--	--
Phenanthrene	100 U	--	--	120 J	--	--
Anthracene	100 U	--	--	26 J	--	--
Carbazole	100 U	--	--	84 J	--	--
Fluoranthene	100 U	--	--	60 J	--	--
Pyrene	100 U	--	--	48 J	--	--
Benzo(a)anthracene	100 U	--	--	43 J	--	--
Chrysene	100 U	--	--	29 J	--	--
bis(2-Ethylhexyl)phthalate	140	650	420	1200	310	280
Benzo(b)fluoranthene	100 U	--	--	55 J	--	--
	(ppb)	(ppb)	(ppb)	(ppb)	(ppb)	(ppb)
PESTICIDES						
beta-BHC	005 U	0025 JP	--	--	--	--
Aldrin	005 U	--	--	00074 JP	--	--
Heptachlor epoxide	005 U	--	--	0017 JP	--	--
4,4-DDE	01 U	--	--	0067 J	--	--
4,4-DDD	01 U	--	--	00086 JP	--	--
Endrin Aldehyde	01 U	--	--	0025 JP	--	--
alpha-Chlorodane	005 U	--	--	0015 JP	--	--
	(ppb)	(ppb)	(ppb)	(ppb)	(ppb)	(ppb)
INORGANICS						
Aluminum	18000	2080 J	14200	INSUFFICIENT	4640	3960
Barium	888 B	962 B	405 B	VOLUME	372 B	346
Calcium	1320000	2030000	430000	FOR	1570000	1560000
Chromium	59 B	--	152	INORGANIC	--	--
Iron	19800	7460	16100	SAMPLE	6740	5630
Lead	44	12 B	59	ANALYSIS	44	42
Magnesium	551000	1440000	290000		1080000	1080000
Manganese	227	69900	322		10600	10600
Potassium	21800 B	27500 B	36400 B		38600 B	43800 B
Sodium	48500 B	489000	3710000		66100	65300
Zinc	190 B	215	160 B		111 B	129 B
Cyanide	100 U	140	--		210	210
Sulfate	1570000	3470000	1564000		2920000	2820000
	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)

RESIDENTIAL WELL SAMPLE

SAMPLING POINT DATE COLLECTED	G201 11-20-95	G202 duplicate of G101
PARAMETER		
INORGANICS		
Barium	1070 B	1070 B
Calcium	1240000	1240000
Iron	2690	2530
Lead	14 B	16 B
Magnesium	651000	657000
Manganese	--	24 B
Potassium	42600 B	51400
Sodium	670000	675000
Zinc	589	589
Sulfate	1380000	1390000
	(ppm)	(ppm)

LIST OF DATA QUALIFIERS

U - compound was not detected
J - estimated value
D - diluted sample
E - exceeded calibration range
B - analyte was found in the blank as well as the sample

TABLE 3-3
ANALYTICAL RESULTS

SOIL SAMPLES

SAMPLING POINT DATE COLLECTED	X101 11-21-95 soil background		X102 11-20-95		X103 11-21-95		X104 11-21-95		X105 4 phoson 1 X104		X106 11-21-95		X107 11-20-95	
PARAMETER														
VOLATILES														
Benzene	13.0	U	--	--	--	--	--	--	--	3000.0	J	--	--	--
Ethylbenzene	13.0	U	--	--	--	--	--	--	--	33000.0	DJ	--	--	--
Xylene(total)	13.0	U	--	--	--	--	--	--	--	84000.0	DEJ	--	--	--
	(ppb)		(ppb)		(ppb)		(ppb)		(ppb)	(ppb)		(ppb)		(ppb)
SEMIVOLATILES														
Naphthalene	440.0	U	780.0	J	--	--	1900.0	J	2300.0		13000.0		--	--
2-Methylnaphthalene	440.0	U	1200.0	J	--	--	4900.0		6000.0		17000.0		--	--
Fluorene	440.0	U	--	--	--	--	--		910.0	J	1600.0	J	--	--
Phenanthrene	440.0	U	1900.0	J	--	--	4000.0		4500.0		2900.0		130.0	J
Anthracene	440.0	U	500.0	J	--	--	540.0	J	560.0	J	--		--	--
Fluoranthene	150.0	J	3300.0		--	--	3400.0		3200.0		580.0	J	230.0	J
Pyrene	92.0	J	2300.0		--	--	2000.0	J	2000.0	J	610.0	J	230.0	J
Benzo(a)anthracene	440.0	U	3800.0		--	--	4000.0		4000.0		--		220.0	J
Chrysene	440.0	U	2800.0		--	--	3000.0		3000.0		--		170.0	J
Benzo(b)fluoranthene	440.0	U	5900.0	J	--	--	4300.0		3100.0	J	--		--	--
Benzo(k)fluoranthene	440.0	UJ	--	--	--	--	3500.0	J	3500.0	J	--		330.0	J
Benzo(a)pyrene	440.0	U	4200.0		--	--	5700.0		5000.0		--		190.0	J
Indeno(1,2,3-cd)pyrene	440.0	UJ	2200.0	J	--	--	2700.0	J	2500.0	J	--		--	--
Benzo(g,h,i)perylene	440.0	U	--	--	--	--	980.0	J	870.0	J	--		--	--
	(ppb)		(ppb)		(ppb)		(ppb)		(ppb)		(ppb)		(ppb)	
PESTICIDES														
alpha-BHC	2.3	U	3.1	P	--	--	6.5	P	--		0.77	JP	--	--
beta-BHC	0.74	JP	--	--	--	--	3.2		3.7	P	--		--	--
delta-BHC	2.3	U	--	--	--	--	--		2.0	JP	--		--	--
Heptachlor	2.3	U	2.3	P	--	--	6.6	P	8.2	P	0.88	JP	0.22	JP
Aldrin	2.3	U	--	--	--	--	8.7		7.9	P	1.6	JP	0.61	J
Heptachlor epoxide	2.3	U	4.8	P	--	--	6.9	P	9.0	P	--		--	--
Endosulfan I	2.3	U	2.7		--	--	--		--		--		--	--
Dieldrin	1.6	JP	6.2	P	1.7	JP	9.8	P	11.0	P	0.41	JP	0.89	JP
Endrin	3.8	J	--	--	0.5	JP	--		--		--		--	--
4,4'-DDD	1.3	JP	2.5	JP	0.16	JP	10.0	P	12.0	P	0.59	JP	1.3	JP
Endosulfan sulfate	4.4	U	23.0	P	--	--	18.0	P	22.0	P	1.7	JP	--	--
Endrin Ketone	4.4	U	--	--	--	--	18.0	P	--		--		--	--
alpha-Chlorodane	1.2	JP	2.0	JP	--	--	--		--		0.45	JP	0.29	JP
gamma-Chlorodane	0.53	JP	1.3	JP	--	--	2.3	P	1.2	JP	--		0.55	JP
Toxaphene	230.0	U	--	--	--	--	--		--		--		68.0	JP
Aroclor-1260	19.0	J	160.0		13.0	J	--		280.0	P	19.0	JP	39.0	
	(ppb)		(ppb)		(ppb)		(ppb)		(ppb)		(ppb)		(ppb)	
INORGANICS														
Aluminum	16000.0		11200.0		20100.0		14000.0		14800.0		13900.0		6290.0	
Antimony	13.8	U	--	--	--	--	18.2	J	27.1	J	--	--	--	--
Arsenic	11.8	J	10.6	J	5.1	J	7.6	J	7.2	J	4.1	J	5.8	J
Barium	233.3		110.0		150.0		106.0		105.0		167.0		44.7	
Beryllium	0.8	B	1.4		1.1		4.5		5.3		0.76	B	0.47	B
Cadmium	3.5		3.6		--		5.3		4.0		--		1.2	
Calcium	46200.0		89400.0		33500.0		24000.0		22400.0		32600.0		135000.0	
Chromium	21.0		17.9		34.4		21.3		21.5		23.3		9.9	
Cobalt	9.9	BJ	6.7	BJ	10.3	J	13.5	J	12.1	J	7.7	BJ	3.9	B
Copper	20.4		24.0		26.5		35.1		36.7		19.1		11.1	
Iron	23800.0		28400.0		25300.0		55100.0		56100.0		19700.0		17200.0	
Lead	234.0		124.0		28.4		62.9		74.4		30.2		79.4	
Magnesium	23900.0		28200.0		13400.0		9000.0		7930.0		12800.0		65300.0	
Manganese	967.0		832.0		695.0		517.0		493.0		756.0		829.0	
Mercury	0.05	B	0.04	B	0.03	B	0.04	B	0.03	B	0.04	B	0.05	B
Nickel	24.6	U	32.1		34.7		63.6		63.6		29.4		--	
Potassium	1760.0		1630.0		2720.0		2030.0	J	2190.0		1950.0	J	721.0	BJ
Silver	1.7	B	2.7		1.7	B	1.9	B	3.7		--		--	
Sodium	178.0	B	264.0	B	190.0	B	262.0	B	348.0	B	153.0	B	253.0	B
Thallium	0.26	U	0.5	BJ	--		0.48	B	0.35	B	--		--	
Vanadium	34.7		31.9		66.4		41.6		41.4		42.8		16.4	
Zinc	1840.0		1110.0		86.4		658.0		604.0		97.4		724.0	
Cyanide	0.65	U	1.2		--		--		--		--		--	
	(ppm)		(ppm)		(ppm)		(ppm)		(ppm)		(ppm)		(ppm)	

LIST OF DATA QUALIFIERS

U - compound was not detected
J - estimated value
B - analyte was found in the blank as well as the sample

D - diluted sample
E - exceeded calibration range

JO DAVIESS SERVICE COMPANY
GALENA ILLINOIS

TABLE 3-3
ANALYTICAL RESULTS

SEDIMENT SAMPLES

SAMPLING POINT DATE COLLECTED	X201 11-20-85 <small>sediment background</small>	X202 11-20-85	X203 duplicate of X202	X204 11-20-85	X205 11-20-85
PARAMETER					
<u>VOLATILES</u>					
Acetone	37.0 J	48.0 J	37.0	63.0 J	47.0
2-Butanone (MEK)	9.0 J (ppb)	13.0 J (ppb)	-- (ppb)	15.0 J (ppb)	8.0 J (ppb)
<u>PESTICIDES</u>					
gamma-BHC (Lindane)	2.4 U	--	0.58 J	0.59 JP	0.59 JP
Aldrin	2.4 U	0.22 JP	0.18 JP	--	--
Dieldrin	0.38 JP	0.74 JP	0.7 JP	0.47 JP	0.22 JP
4,4-DDE	4.7 U	0.28 JP	0.39 JP	--	--
Endrin	0.8 JP	1.9 JP	2.6 J	1.1 JP	0.81 JP
Endosulfan II	0.78 JP	0.83 J	1.5 J	--	0.4 JP
4,4-DDD	0.47 JP	0.88 JP	1.6 JP	0.39 JP	0.69 JP
Methoxychlor (Marlate)	24.0 U	--	--	4.9 JP	--
alpha-Chlorodane	0.23 JP	0.92 J	0.99 JP	0.73 J	0.56 J
Aroclor-1254	47.0 U	--	22.0 J	--	--
Aroclor-1260	8.6 JP (ppb)	21.0 J (ppb)	26.0 J (ppb)	6.1 JP (ppb)	8.0 JP (ppb)
<u>INORGANICS</u>					
Aluminum	9580.0	12000.0	11600.0	11700.0	16100.0
Antimony	10.2 U	--	--	--	18.9 J
Arsenic	10.1 J	12.5 J	14.4 J	9.1 J	28.5 J
Barium	149.0	198.0	195.0	152.0	242.0
Beryllium	0.49 B	0.6 B	0.44 B	0.43 B	0.74 B
Cadmium	8.8	9.3	7.3	6.8	13.4
Calcium	91100.0	33500.0	40800.0	22000.0	30100.0
Chromium	13.3	16.3	15.8	16.6	20.5
Cobalt	5.3 BJ	11.1 BJ	10.4 BJ	6.3 BJ	11.1 BJ
Copper	13.3	15.0	16.2	12.0	18.5
Iron	18200.0	22700.0	22100.0	17100.0	32400.0
Lead	187.0	360.0	348.0	290.0	929.0
Magnesium	49800.0	16000.0	16700.0	12000.0	15000.0
Manganese	1060.0	713.0	785.0	844.0	658.0
Mercury	0.05 B	0.08 B	0.04 B	0.07 B	0.34
Nickel	15.5 U	--	--	--	34.6
Potassium	1270.0	1010.0 BJ	1500.0 J	1360.0 J	1640.0 J
Sodium	168.0 B	121.0 B	128.0 B	64.9 B	79.9 B
Vanadium	22.7	26.7	26.8	27.7	35.8
Zinc	1890.0 (ppm)	3250.0 (ppm)	3150.0 (ppm)	3080.0 (ppm)	6350.0 (ppm)

SURFACE WATER SAMPLES

SAMPLING POINT DATE COLLECTED	S101 11-20-85 <small>see w. for background</small>	S102 11-20-85	S103 duplicate of S102	S104 11-20-85	S105 11-20-85
PARAMETER					
<u>SEMIVOLATILES</u>					
bis(2-Ethylhexyl)phthalate	10.0 U (ppb)	-- (ppb)	9.0 J (ppb)	-- (ppb)	2.0 J (ppb)
<u>INORGANICS</u>					
Aluminum	460.0	262.0	237.0	353.0	233.0 J
Barium	74.9	68.4 B	68.4 B	69.4 B	68.1 B
Calcium	116000.0	116000.0	116000.0	115000.0	117000.0
Iron	434.0	340.0	339.0	359.0	306.0
Lead	6.7 J	6.0 J	5.6 J	5.7 J	5.2
Magnesium	57400.0	57500.0	57400.0	57400.0	57500.0
Manganese	98.7	100.0	99.8	97.4	97.7
Potassium	1850.0 U	2160.0 B	2540.0 B	2120.0 B	3170.0 B
Sodium	13000.0	11000.0	11000.0	10900.0	11000.0
Zinc	144.0	139.0	139.0	144.0	139.0
Sulfate	134000.0 (ppm)	138000.0 (ppm)	139000.0 (ppm)	140000.0 (ppm)	139000.0 (ppm)

LIST OF DATA QUALIFIERS

U - compound was not detected

J - estimated value

B - analyte was found in the blank as well as the sample

D - diluted sample

E - exceeded calibration range

4.2 WASTEPILE

The JDSC operated a bulk petroleum storage facility at the Galena location for approximately 48 years beginning in 1945. Prior to occupation by the JDSC, the property was the location of several MGP's beginning in at least 1856. In 1993, the JDSC retained the services of DAHL to perform investigative activities on the property which addressed past operations of the bulk petroleum storage facility. One of the activities performed by DAHL was to determine the extent of contamination beneath the above ground storage tank area. Sample results indicated elevated concentrations of total Polynuclear Aromatic's (PNA), total carcinogenic PNA's, total hydrocarbons as gasoline, total hydrocarbons as diesel, and Benzene, Toluene, Ethylbenzene, and Xylene (BETX). DAHL estimated that 250 cubic yards of soil was excavated. The excavated soil was placed in a pile just south of the pit and covered with a six millimeter plastic. The wastepile still remains on the JDSC property and the plastic covering is still in tact over most of the pile.

During 1995 Integrated Assessment field activities, the constituents of the pile were determined by using soil sample point X102. The sample was taken from the northwest portion of the wastepile. This pile of contaminated soil was a result the subsurface environmental investigation conducted by DAHL in 1993. Within the pile, levels of semi-volatile contaminants were detected above background concentrations. Specific semi-volatile contaminants detected within sample X102 were Benzo(a)pyrene, Fluoranthene, Pyrene, Benzo(a)anthracene, Benzo(b)fluoranthene, and Chrysene.

4.3 CONTAMINATED SOIL

One of the tasks performed in the 1993 investigation by DAHL was the trenching and sampling of ten test pits on and off of the JDSC property. The test pits were excavated to depths ranging from 8 feet to 19 feet. Sample results indicated elevated levels of BETX, hydrocarbons as gasoline and diesel, PNA's, and carcinogenic PNA's.

During the 1995 CERCLA Integrated Assessment, sample point X104/X105 was collected from the northwest wall on the pit. Sample point X106 was taken from the bottom of the pit. Specific semi-volatile contaminants detected within these two sample points were Naphthalene, 2-Methyl naphthalene, Phenanthrene, Pyrene, Benzo(a)anthracene, Chrysene, Benzo(b)fluoranthene, Benzo(a)pyrene, Benzo(k)fluoranthene, Ideno(1,2,3-cd)pyrene, and Benzo(g,h,i)perylene. Sample point X106 contained high levels of Benzene, Ethylbenzene, and Xylene. These two sample locations indicate elevated levels of soil contamination still exist in the immediate area of excavations.

The analytical results from the Integrated Assessment and the 1993 DAHL investigation reveal soil contamination exists on the JDSC property at varying depths and locations. Due to the nature of these investigations the exact area of contaminated soil has not been delineated at this time.

5 DISCUSSION OF MIGRATION PATHWAYS

5.1 INTRODUCTION

The CERCLA Site Assessment Program identifies three migration pathways and one exposure pathway by which hazardous substances may pose a threat to human health and/or the

environment. Consequently, sites are evaluated on their known or potential impact to these four pathways. The pathways evaluated are groundwater migration, surface water migration, soil exposure, and air migration.

This section presents and discusses information collected during the CERCLA Integrated Assessment of the JDSC. This information, together with information documented in other sources, will be utilized in analyzing the site's impact on the four pathways and the various human and environmental targets within the established target distance limits.

Discussions of the pathways will include pathway description, contaminant sources, and targets such as human population, fisheries, endangered species, wetlands, and other sensitive environments.

5.2 GROUNDWATER

Information from the Jo Daviess County Soil Survey indicates surface soils within the JDSC property consist mostly of silts and clays. The 1995 Integrated Assessment also indicated the presence of building debris such as brick, concrete, wire, and metal pipes mixed with surface soils. The report produced by DAHL indicated that a non-uniform sand lens ranging from 10 - 20 feet below the surface was present along the central and eastern edges of the property. A clay layer can be found approximately 20 feet below the surface and is somewhat uniform throughout the JDSC property. The clay layer continued to approximately 40 feet in depth at which time bedrock could be encountered. Present within the bedrock is Niagara dolomites or Galena limestones. Information from area well logs indicates most groundwater in the area is drawn from the Niagara dolomites and Galena limestones within the bedrock.

One of the activities which took place during the 1993 investigation performed by DAHL was the installation and periodic groundwater measurements of five monitor wells on the JDSC property. During their installation, three potential groundwater bearing units were encountered. The first was encountered at 8 feet below the surface. Monitor well 1 accesses this particular aquifer. Monitor wells 2, 3, 4, and 5 access a second potential groundwater bearing unit located at 15 to 17 feet below the surface. Additional test borings indicated a third groundwater bearing unit located 30 feet below the surface. Static groundwater elevations were periodically measured and determined that groundwater flowed in an easterly direction toward the Galena River.

Information generated from local well logs indicated the presence of fourteen wells within approximately 3/4 mile of the JDSC property. The well logs indicate water is being drawn from aquifers present in the Niagra dolomites and Galena limestones. As previously mentioned, the closest well is located approximately 220 feet south of the JDSC property. No specific record exists on the well but according to the property owner, the well is approximately 110 feet deep. The depth of the well indicates that water for this well is being drawn from an aquifer located within the dolomite or limestone layers.

Personnel from the City of Galena indicated there are two wells which supply most of the city with drinking water. Both wells are approximately 1600 feet in depth and located upgradient from the JDSC property. One well is located approximately 1/2 mile to the northwest along Gear St. The other well is located approximately 2 miles to the north of the site. Due to their depth and their upgradient location, these wells were not evaluated for the groundwater pathway.

There were eight groundwater samples collected during the sampling event conducted

during the Integrated Assessment of November 20 - 21, 1995. Six samples were taken from monitor wells while two were collected from a private residential well. Sample Point G104 (Monitor Well 4) contained elevated levels of volatile and semi-volatile constituents above cleanup objectives set forth by Illinois EPA's Tiered Approach to Cleanup Objectives. The sample taken at the residential well (G201/G202) did not reveal any elevated levels of contaminants of concern.

5.3 SURFACE WATER

Excess surface water from the JDSC property appears to flow toward the Galena River through a small drainage pipe located beneath South Water Street. The water appears to flow in an easterly direction for approximately 200 feet before entering the Galena River along its eastern bank. The eastern shoreline of the Galena River was determined to be the Probable Point of Entry (PPE) for the surface water pathway. From this location, the Galena River flows southerly until joining with the Mississippi River approximately four miles downstream near Portage, Illinois. The surface water pathway reaches the Target Distance Limit (TDL) just south of Lock and Dam Number 12 on the Mississippi River. According to the Illinois Department of Natural Resources (DNR) Illinois Fishing Guide, the Galena River and Mississippi River are both listed as fisheries. Information from Wetlands Inventory Maps indicated wetlands are associated with the entire length of the surface water pathway.

There are no surface water intakes along the 15 mile surface water route. The site is located within the 100 year flood zone as designated by Federal Emergency Management Flood Insurance Map (#170902 0150 B). The Galena River is used for recreational purposes according

to the Illinois DNR

Six surface water and six sediment samples were collected during CERCLA Integrated Assessment sampling activities. These samples were taken in order to determine if hazardous substances may have migrated present in the Galena River as a result of past activities on the JDSC property. The collection of these samples indicated no attributable sediment or surface water contamination exists within the Galena River that could be attributed to past operations at the JDSC property.

5.4 SOIL EXPOSURE

The JDSC property has been used for industrial purposes for over 135 years. Beginning in 1856, the property was the location for MGP's and continued until 1945. After 1945 the JDSC utilized the property as a bulk petroleum storage facility. Since at least 1993 the property has remained vacated and void of any buildings, tanks, or other structures. A large excavated pit and wastepile have been present since 1993 and still remain. Access is not restricted to the facility.

Using U.S. Geological Survey topographic maps (Appendix A) and U.S. Census data, an estimated 1274 people live within one mile of the JDSC property. According to the Illinois DNR, there are no sensitive environments on-site or within ½ mile from the site. The nearest resident is located approximately 220 feet south of the JDSC property. There were no schools or daycare facilities located on-site or within 200 feet of observed contamination.

There were seven soil samples collected from six locations during the Integrated Assessment. Samples X102, X104/X105, and X106 indicated elevated levels of contamination.

present within the soil of the JDSC property. Sample X102 was collected from the pile of excavated soil which has remained at its present location since remedial activities were conducted by DAHL in 1993. Elevated levels of semi-volatile contaminants were detected in the sample collected from the waste pile. The DAHL report indicated 250 cubic yards of contaminated soil were removed from the pit. Samples X104/X105 and X106 were collected from exposed portions of the excavated pit and suggest elevated levels of semi-volatile and volatile contaminants are still present within that area. Levels of detected contaminants did not exceed CERCLA Removal Action Levels or Illinois EPA's Tiered Approach to Cleanup Objectives.

**Table 5-1
Nearby population within one-mile of the site**

Distance (mi)	Population
On-site	0
0 - 1/4	167
1/4 - 1/2	457
1/2 - 1	1083
TOTAL	1707

The number of people were calculated using 2.61 people per household in Jo Daviess County, as established by the U.S. Census Bureau for this county.

5.5 AIR ROUTE

During the November 20 - 21, 1995 Integrated Assessment, there were no formal air samples collected. A Foxboro Toxic Vapor Analyzer Model 1000 was used to screen ambient air around the site and air within the breathing zone at each sample point. Background readings for both the PID and FID taken prior to sample collection revealed levels varying from 1 - 1 1/2

meter units

Within a four-mile radius of the JDSC site, the population was estimated to be approximately 2871 people. The facility is no longer active and does not have any workers present on the property. The closest resident is located approximately 220 feet south of the JDSC property. According to the Illinois DNR, there are no known occurrences of listed endangered or threatened species, Illinois Natural Area Inventory sites, or Nature Preserves within the vicinity of the JDSC site. There are no schools or day care facilities located within 200 feet of observed contamination. The approximate number of individuals potentially exposed to air-borne contaminants are listed in Table 5-2. The nearest resident is located approximately 220 feet south of the JDSC property.

Table 5-2
Individuals potentially exposed to air-borne contaminants

Distance	Population
On-site	0
0 - 1/4	167
1/4 - 1/2	475
1/2 - 1	1083
1 - 2	723
2 - 3	211
3 - 4	230
TOTAL	2871

The number of people were calculated using 2.61 people per household in Jo Daviess County, as established by the U.S. Census Bureau for this county.

6 BIBLIOGRAPHY

Bureau of the Census, 1990 U S Census of Population and Housing- Summary Population and Housing Characteristics Illinois, August 1991

Federal Emergency Management Agency, Flood Insurance Rate Map Number 170902 0150 B, January 18, 1984

Illinois Department of Transportation aerial photographs, Bureau of Location and Environment, Aerial Survey Section, 1970, 1988, and 1994

Illinois Environmental Protection Agency, Bureau of Land, file for Jo Daviess Farm Service, LPC# 0850200020

U S Geological Survey Topographic Map 1968, Galena, IL - Iowa Quadrangle, 7 5 Minute Series 1 24,000

U S Geological Survey Topographic Map 1968, Bellevue, Iowa - IL Quadrangle, 7 5 Minute Series 1 24,000

U S Geological Survey Topographic Map 1968, Hanover Quadrangle, 7 5 Minute Series 1 24,000

U S Geological Survey Topographic Map 1975, Scales Mound West Quadrangle, 7 5 Minute Series 1 24,000

Illinois Department of Natural Resources, Division of Natural Resource Review and Coordination, Deanna Glosser, November 7, 1995

Rainfall Frequency Atlas of the United States, Technical Paper Number 40, U S Department of Commerce, U S Government Printing Office, Washington D C , 1963

SDMS US EPA Region V

Imagery Insert Form

**Some images in this document may be illegible or unavailable in SDMS.
Please see reason(s) indicated below:**

☐

Illegible due to bad source documents. Image(s) in SDMS is equivalent to hard copy.

Specify Type of Document(s) / Comment

☐

Confidential Business Information (CBI).

This document contains highly sensitive information. Due to confidentiality, materials with such information are not available in SDMS. You may contact the EPA Superfund Records Manager if you wish to view this document.

Specify Type of Document(s) / Comment

☒

Unscannable Material: Oversized X or Format.

Due to certain scanning equipment capability limitations, the document page(s) is not available in SDMS. The original document is available for viewing at the Superfund Records center.

Specify Type of Document(s) / Comment

☐

Other:

APPENDIX B

TARGET COMPOUND LIST

TARGET COMPOUND LIST

Volatile Target Compounds

Chloromethane	1 2 Dichloropropane
Bromomethane	cis-1 3-Dichloropropene
Vinyl Chloride	Trichloroethene
Chloroethane	Dibromochloromethane
Methylene Chloride	1 1 2-Trichloroethane
Acetone	Benzene
Carbon Disulfide	trans-1 3-Dichloropropene
1 1 Dichloroethene	Bromoform
1 1 Dichloroethane	4-Methyl-2-pentanone
1 2-Dichloroethene (total)	2-Hexanone
Chloroform	Tetrachloroethene
1 2 Dichloroethane	1 1 2 2-Tetrachloroethane
2 Butanone	Toluene
1 1 1 Trichloroethane	Chlorobenzene
Carbon Tetrachloride	Ethylbenzene
Vinyl Acetate	Styrene
Bromodichloromethane	Xylenes (total)

Base/Neutral Target Compounds

Hexachloroethane	2 4-Dinitrotoluene
bis(2 Chloroethyl) Ether	Diethylphthalate
Benzyl Alcohol	N-Nitrosodiphenylamine
bis (2-Chloroisopropyl) Ether	Hexachlorobenzene
N-Nitroso Di-n-Propylamine	Phenanthrene
Nitrobenzene	4-Bromophenyl-phenylether
Hexachlorobutadiene	Anthracene

2-Methylnaphthalene	Di-n-Butylphthalate
1 2 4-Trichlorobenzene	Fluoranthene
Isophorone	Pyrene
Naphthalene	Butylbenzylphthalate
4 Chloroaniline	bis(2-Ethylhexyl)Phthalate
bis(2 chloroethoxy)Methane	Chrysene
Hexachlorocyclopentadiene	Benzo(a)Anthracene
2 Chloronaphthalene	3-3 -Dichlorobenzidene
2 Nitroaniline	Di-n-Octyl Phthalate
Acenaphthylene	Benzo(b)Fluoranthene
3 Nitroaniline	Benzo(k)Fluoranthene
Acenaphthene	Benzo(a)Pyrene
Dibenzofuran	Ideno(1 2 3-cd)Pyrene
Dimethyl Phthalate	Dibenz(a h)Anthracene
2 6 Dinitrotoluene	Benzo(g h i)Perylene
Fluorene	1 2-Dichlorobenzene
4 Nitroaniline	1 3-Dichlorobenzene
4 Chlorophenyl phenylether	1 4 Dichlorobenzene

Acid Target Compounds

Benzoic Acid	2 4 6 Trichlorophenol
Phenol	2 4 5-Trichlorophenol
2 Chlorophenol	4-Chloro-3-methylphenol
2 Nitrophenol	2 4 Dinitrophenol
2 Methylphenol	2-Methyl-4 6-dinitrophenol
2 4 Dimethylphenol	Pentachlorophenol
4 Methylphenol	4-Nitrophenol
2 4 Dichlorophenol	

Pesticide/PCB Target Compounds

alpha-BHC	Endrin Ketone
beta-BHC	Endosulfan Sulfate
delta BHC	Methoxychlor
gamma-BHC (Lindane)	alpha-Chlordane
Heptachlor	gamma-Chlordane
Aldrin	Toxaphene
Heptachlor epoxide	Aroclor-1016
Endosulfan I	Aroclor-1221
4 4 -DDE	Aroclor-1232
Dieldrin	Aroclor-1242
Endrin	Aroclor-1248
4 4 DDD	Aroclor-1254
Endosulfan II	Aroclor-1260
4 4 DDT	

Inorganic Target Compounds

Aluminum	Manganese
Antimony	Mercury
Arsenic	Nickel
Barium	Potassium
Beryllium	Selenium
Cadmium	Silver
Calcium	Sodium
Chromium	Thallium
Cobalt	Vanadium
Copper	Zinc
Iron	Cyanide
Lead	Sulfide
Magnesium	

APPENDIX C

IEPA SAMPLE PHOTOGRAPHS

SAMPLE PHOTOGRAPHS

DATE: November 20, 1995

TIME: 8:30 a.m.

PHOTOGRAPH TAKEN BY:

Bruce Everetts

PHOTOGRAPH NUMBER: 1

LOCATION: Jo Daviess Service Co.

LPC 0850200020 Jo Daviess Co.

PICTURE TAKEN TOWARD: N

COMMENTS: Photo taken of sample
points X205 and S105 along the west
shore of the Galena River south of the
Jo Daviess Service Co. property



DATE: November 20, 1995

TIME: 8:30 a.m.

PHOTOGRAPH TAKEN BY:

Bruce Everetts

PHOTOGRAPH NUMBER: 2

LOCATION: Jo Daviess Service Co.

LPC 0850200020 Jo Daviess Co.

PICTURE TAKEN TOWARD: SE

COMMENTS: Photo taken of sample
points X205 and S105 along the west
shore of the Galena River south of the
Jo Daviess Service Co. property



SAMPLE PHOTOGRAPHS

DATE: November 20, 1995

TIME: 9:30 a.m.

PHOTOGRAPH TAKEN BY:

Bruce Everetts

PHOTOGRAPH NUMBER: 3

LOCATION: Jo Daviess Service Co.

LPC 0850200020 Jo Daviess Co.

PICTURE TAKEN TOWARD: N

COMMENTS: Photo taken of sample
points X204 and S104 along the west
shore of the Galena River south of the
Jo Daviess Service Co. property



DATE: November 20, 1995

TIME: 9:30 a.m.

PHOTOGRAPH TAKEN BY:

Bruce Everetts

PHOTOGRAPH NUMBER: 4

LOCATION: Jo Daviess Service Co.

LPC 0850200020 Jo Daviess Co.

PICTURE TAKEN TOWARD: S

COMMENTS: Photo taken of sample
points X204 and S104 along the west
shore of the Galena River south of the
Jo Daviess Service Co. property



SAMPLE PHOTOGRAPHS

DATE: November 20, 1995

TIME: 10:00 a.m.

PHOTOGRAPH TAKEN BY:

Bruce Everetts

PHOTOGRAPH NUMBER: 5

LOCATION: Jo Daviess Service Co.

LPC 0850200020 Jo Daviess Co.

PICTURE TAKEN TOWARD: S

COMMENTS: Photo taken of sample
point X202/X203 and S102/S103 along
the west shore of the Galena River east
of the Jo Daviess Service Co. property



DATE: November 20, 1995

TIME: 10:00 a.m.

PHOTOGRAPH TAKEN BY:

Bruce Everetts

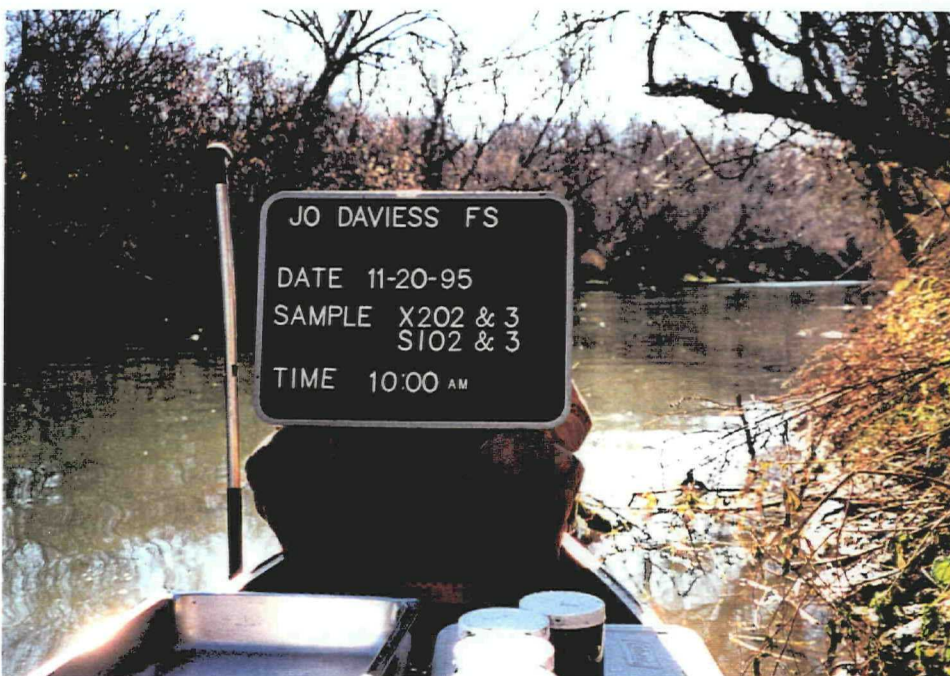
PHOTOGRAPH NUMBER: 6

LOCATION: Jo Daviess Service Co.

LPC 0850200020 Jo Daviess Co.

PICTURE TAKEN TOWARD: S

COMMENTS: Photo taken of sample
point X202/X203 and S102/S103 along
the west shore of the Galena River east
of the Jo Daviess Service Co. property



SAMPLE PHOTOGRAPHS

DATE: November 20, 1995

TIME: 10:30 a.m.

PHOTOGRAPH TAKEN BY:

Bruce Everetts

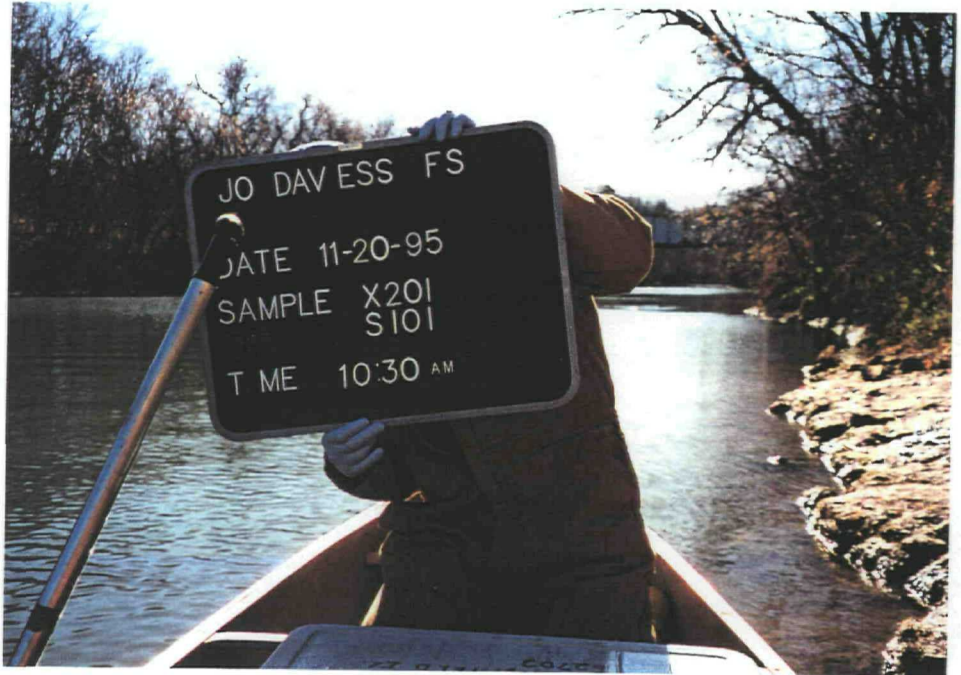
PHOTOGRAPH NUMBER: 7

LOCATION: Jo Daviess Service Co.

LPC 0850200020 Jo Daviess Co.

PICTURE TAKEN TOWARD: S

COMMENTS: Photo taken of sample
point X201 and S101 along the west
shore of the Galena River north of the
Jo Daviess Service Co. property



DATE: November 20, 1995

TIME: 10:30 a.m.

PHOTOGRAPH TAKEN BY:

Bruce Everetts

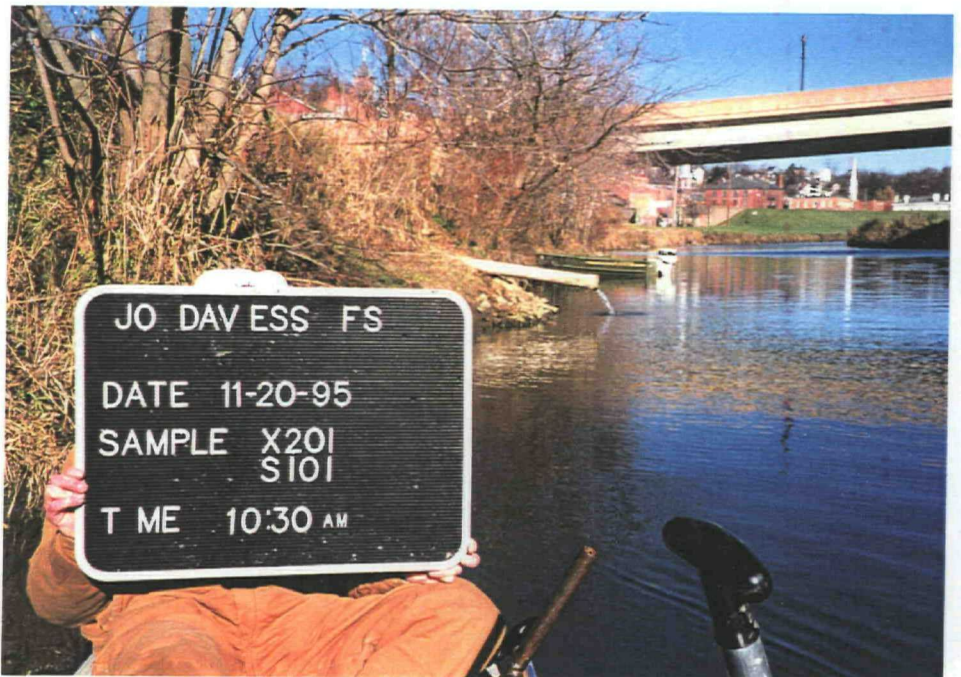
PHOTOGRAPH NUMBER: 8

LOCATION: Jo Daviess Service Co.

LPC 0850200020 Jo Daviess Co.

PICTURE TAKEN TOWARD: N

COMMENTS: Photo taken of sample
point X201 and S101 along the west
shore of the Galena River north of the
Jo Daviess Service Co. property



SAMPLE PHOTOGRAPHS

DATE: November 20, 1995

TIME: 12:45 p.m.

PHOTOGRAPH TAKEN BY:

Bruce Everetts

PHOTOGRAPH NUMBER: 11

LOCATION: Jo Daviess Service Co.

LPC 0850200020 Jo Daviess Co.

PICTURE TAKEN TOWARD: NW

COMMENTS: Photo taken of sample
point G103 located at Monitor Well #3
found along the northeast portion of
the Jo Daviess Service Co. property



DATE: November 20, 1995

TIME: 12:45 p.m.

PHOTOGRAPH TAKEN BY:

Bruce Everetts

PHOTOGRAPH NUMBER: 12

LOCATION: Jo Daviess Service Co.

LPC 0850200020 Jo Daviess Co.

PICTURE TAKEN TOWARD: NE

COMMENTS: Photo taken of sample
point G103 located at Monitor Well #3
found along the northeast portion of
Jo Daviess Service Co. property



SAMPLE PHOTOGRAPHS

DATE: November 20, 1995

TIME: 1:00 p.m.

PHOTOGRAPH TAKEN BY:

Bruce Everetts

PHOTOGRAPH NUMBER: 13

LOCATION: Jo Daviess Service Co.

LPC 0850200020 Jo Daviess Co.

PICTURE TAKEN TOWARD: E

COMMENTS: Photo taken of sample
point G105 & G106 (duplicate)

located at Monitor Well #5 along the
southern portion of the JDSC property



DATE: November 20, 1995

TIME: 1:00 p.m.

PHOTOGRAPH TAKEN BY:

Bruce Everetts

PHOTOGRAPH NUMBER: 14

LOCATION: Jo Daviess Service Co.

LPC 0850200020 Jo Daviess Co.

PICTURE TAKEN TOWARD: W

COMMENTS: Photo taken of sample
point G105 & G106 (duplicate)

located at Monitor Well #5 along the
southern portion of the JDSC property



SAMPLE PHOTOGRAPHS

DATE: November 20, 1995

TIME: 2:35 p.m.

PHOTOGRAPH TAKEN BY:

Bruce Everetts

PHOTOGRAPH NUMBER: 15

LOCATION: Jo Daviess Service Co.

LPC 0850200020 Jo Daviess Co.

PICTURE TAKEN TOWARD: W

COMMENTS: Photo taken of sample
point G201 & G202 (duplicate)

located at a residential well south of
the Jo Daviess Service Co. property



DATE: November 20, 1995

TIME: 2:35 p.m.

PHOTOGRAPH TAKEN BY:

Bruce Everetts

PHOTOGRAPH NUMBER: 16

LOCATION: Jo Daviess Service Co.

LPC 0850200020 Jo Daviess Co.

PICTURE TAKEN TOWARD: N

COMMENTS: Photo taken of sample
point G201 & G202 (duplicate)

located at a residential well south of
the Jo Daviess Service Co. property



SAMPLE PHOTOGRAPHS

DATE: November 20, 1995

TIME: 3:35 p.m.

PHOTOGRAPH TAKEN BY:

Bruce Everetts

PHOTOGRAPH NUMBER: 17

LOCATION: Jo Daviess Service Co.

LPC 0850200020 Jo Daviess Co.

PICTURE TAKEN TOWARD: S

COMMENTS: Photo taken of sample
point X102 collected from the north
side of a pile of excavated soil within
the Jo Daviess Service Co. property



DATE: November 20, 1995

TIME: 3:35 p.m.

PHOTOGRAPH TAKEN BY:

Bruce Everetts

PHOTOGRAPH NUMBER: 18

LOCATION: Jo Daviess Service Co.

LPC 0850200020 Jo Daviess Co.

PICTURE TAKEN TOWARD: E

COMMENTS: Photo taken of sample
point X102 collected from the north
side of a pile of excavated soil within
the Jo Daviess Service Co. property



SAMPLE PHOTOGRAPHS

DATE: November 20, 1995

TIME: 4:15 p.m.

PHOTOGRAPH TAKEN BY:

Bruce Everetts

PHOTOGRAPH NUMBER: 19

LOCATION: Jo Daviess Service Co.

LPC 0850200020 Jo Daviess Co.

PICTURE TAKEN TOWARD: NW

COMMENTS: Photo taken of sample
point X107 located beneath a drainage
pipe east of the Jo Daviess Service Co.
property



DATE: November 20, 1995

TIME: 4:15 p.m.

PHOTOGRAPH TAKEN BY:

Bruce Everetts

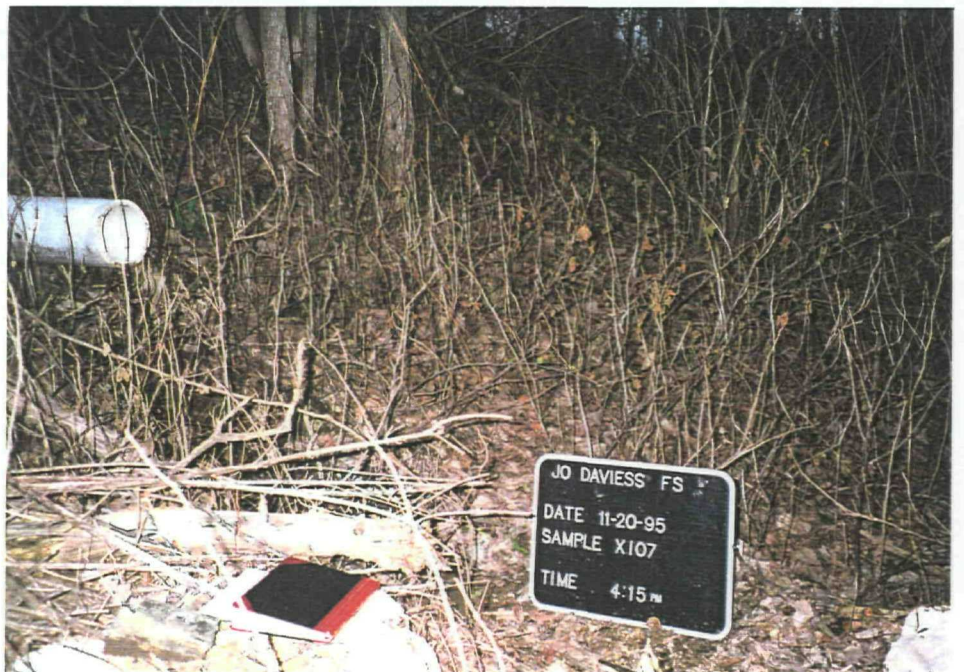
PHOTOGRAPH NUMBER: 20

LOCATION: Jo Daviess Service Co.

LPC 0850200020 Jo Daviess Co.

PICTURE TAKEN TOWARD: N

COMMENTS: Photo taken of sample
point X107 located beneath a drainage
pipe east of the Jo Daviess Service Co.
property



SAMPLE PHOTOGRAPHS

DATE: November 21, 1995

TIME: 9:30 a.m.

PHOTOGRAPH TAKEN BY:

Bruce Everetts

PHOTOGRAPH NUMBER: 21

LOCATION: Jo Daviess Service Co.

LPC 0850200020 Jo Daviess Co.

PICTURE TAKEN TOWARD: N

COMMENTS: Photo taken of sample
point X103 located along the east
portion of the Jo Daviess Service Co.
property



DATE: November 21, 1995

TIME: 9:30 a.m.

PHOTOGRAPH TAKEN BY:

Bruce Everetts

PHOTOGRAPH NUMBER: 22

LOCATION: Jo Daviess Service Co.

LPC 0850200020 Jo Daviess Co.

PICTURE TAKEN TOWARD: W

COMMENTS: Photo taken of sample
point X103 located along the east
portion of the Jo Daviess Service Co.
property



SAMPLE PHOTOGRAPHS

DATE: November 21, 1995

TIME: 10:15 a.m.

PHOTOGRAPH TAKEN BY:

Bruce Everetts

PHOTOGRAPH NUMBER: 23

LOCATION: Jo Daviess Service Co.

LPC 0850200020 Jo Daviess Co.

PICTURE TAKEN TOWARD: SW

COMMENTS: Photo taken of sample
point G101 (background) located at
Monitor Well #1 found along the west
portion of the JDSC property



DATE: November 21, 1995

TIME: 10:15 a.m.

PHOTOGRAPH TAKEN BY:

Bruce Everetts

PHOTOGRAPH NUMBER: 24

LOCATION: Jo Daviess Service Co.

LPC 0850200020 Jo Daviess Co.

PICTURE TAKEN TOWARD: NW

COMMENTS: Photo taken of sample
point G101 (background) located at
Monitor Well #1 found along the west
portion of the JDSC property



SAMPLE PHOTOGRAPHS

DATE: November 21, 1995

TIME: 10:45 a.m.

PHOTOGRAPH TAKEN BY:

Bruce Everetts

PHOTOGRAPH NUMBER: 25

LOCATION: Jo Daviess Service Co.

LPC 0850200020 Jo Daviess Co.

PICTURE TAKEN TOWARD: W

COMMENTS: Photo taken of sample
point X104/X105 (duplicate) along
western wall of the excavated pit on
the Jo Daviess Service Co. property



DATE: _____

TIME: _____

PHOTOGRAPH TAKEN BY: _____

PHOTOGRAPH NUMBER: _____

LOCATION: _____

PICTURE TAKEN TOWARD: _____

COMMENTS: _____

NO PHOTO TAKEN

SAMPLE PHOTOGRAPHS

DATE: November 21, 1995

TIME: 10:45 a.m.

PHOTOGRAPH TAKEN BY:

Bruce Everetts

PHOTOGRAPH NUMBER: 26

LOCATION: Jo Daviess Service Co.

LPC 0850200020 Jo Daviess Co.

PICTURE TAKEN TOWARD: E

COMMENTS: Photo taken of sample
point G104 located at Monitor Well #4
found along the southeast portion of
the Jo Daviess Service Co. property



DATE: November 21, 1995

TIME: 10:45 a.m.

PHOTOGRAPH TAKEN BY:

Bruce Everetts

PHOTOGRAPH NUMBER: 27

LOCATION: Jo Daviess Service Co.

LPC 0850200020 Jo Daviess Co.

PICTURE TAKEN TOWARD: N

COMMENTS: Photo taken of sample
point G104 located at Monitor Well #4
found along the southeast portion of
the Jo Daviess Service Co. property



SAMPLE PHOTOGRAPHS

DATE: November 21, 1995

TIME: 11:15 a.m.

PHOTOGRAPH TAKEN BY:

Bruce Everetts

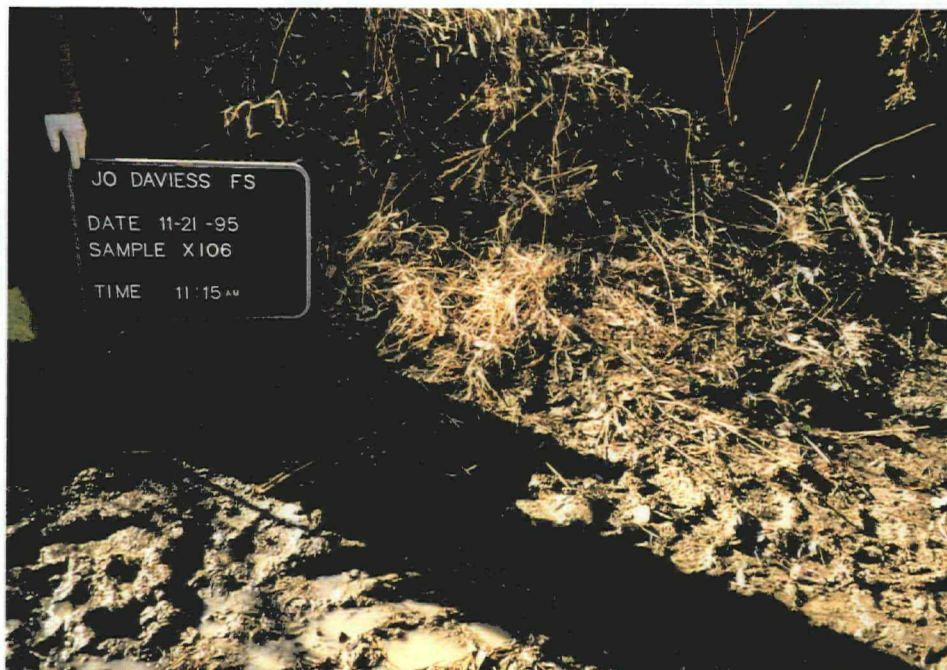
PHOTOGRAPH NUMBER: 28

LOCATION: Jo Daviess Service Co.

LPC 0850200020 Jo Daviess Co.

PICTURE TAKEN TOWARD: SE

COMMENTS: Photo taken of sample
point X106 located at the bottom of the
excavated pit found on the Jo Daviess
Service Co. property



DATE: November 21, 1995

TIME: 11:15 a.m.

PHOTOGRAPH TAKEN BY:

Bruce Everetts

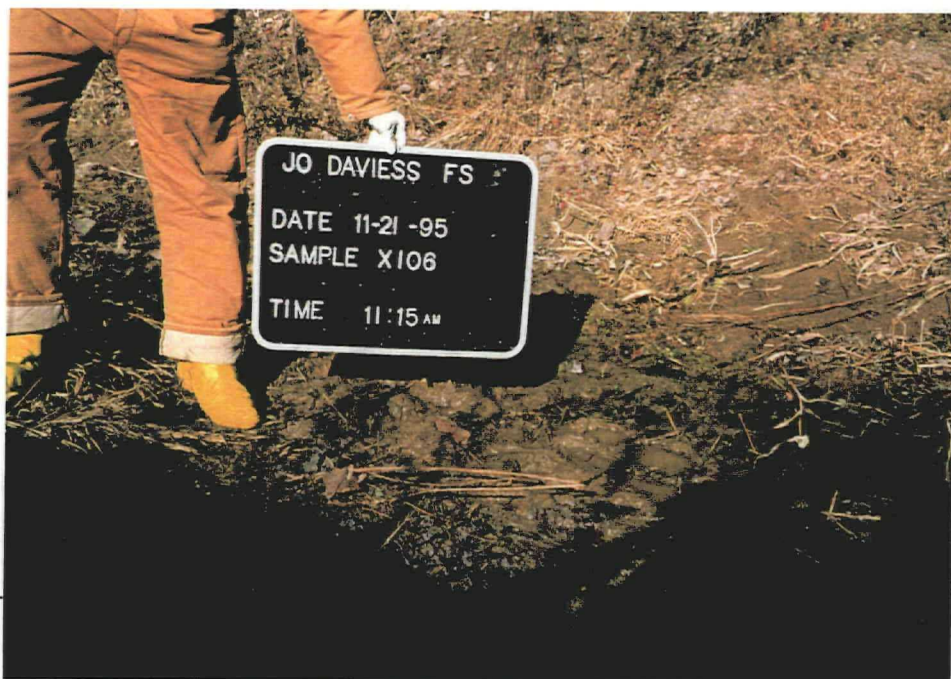
PHOTOGRAPH NUMBER: 29

LOCATION: Jo Daviess Service Co.

LPC 0850200020 Jo Daviess Co.

PICTURE TAKEN TOWARD: NW

COMMENTS: Photo taken of sample
point X106 located at the bottom of the
excavated pit found on the Jo Daviess
Service Co. property



SAMPLE PHOTOGRAPHS

DATE: November 21, 1995

TIME: 11:30 p.m.

PHOTOGRAPH TAKEN BY:

Bruce Everetts

PHOTOGRAPH NUMBER: 30

LOCATION: Jo Daviess Service Co.

LPC 0850200020 Jo Daviess Co.

PICTURE TAKEN TOWARD: NE

COMMENTS: Photo taken of sample
point X101 (soil background) located
north of the Jo Daviess Service Co.
property



DATE: November 21, 1995

TIME: 11:30 a.m.

PHOTOGRAPH TAKEN BY:

Bruce Everetts

PHOTOGRAPH NUMBER: 31

LOCATION: Jo Daviess Service Co.

LPC 0850200020 Jo Daviess Co.

PICTURE TAKEN TOWARD: E

COMMENTS: Photo taken of sample
points X101 (soil background) located
north of the Jo Daviess Service Co.
property



APPENDIX D

AERIAL PHOTOGRAPHS



Site Inspection Report



POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 1 SITE LOCATION AND INSPECTION INFORMATION

I IDENTIFICATION

01 STATE IL 02 SITE NUMBER NA
IL 180010217

II SITE NAME AND LOCATION

01 SITE NAME (Legal common, or descriptive name of site) JO DAVIESS SERVICE COMPANY 02 STREET ROUTE NO OR SPECIFIC LOCATION IDENTIFIER SOUTH WATER STREET
03 CITY GALENA 04 STATE IL 05 ZIP CODE 61036 06 COUNTY JO DAVIESS 07 COUNTY CODE 085 08 CONG DIST 16
09 COORDINATES
LATITUDE 90° 36' 13" N LONGITUDE 042° 33' 51" W
10 TYPE OF OWNERSHIP (Check one)
☒ A PRIVATE ☐ B FEDERAL ☐ C STATE ☐ D COUNTY ☐ E MUNICIPAL
☐ F OTHER

III INSPECTION INFORMATION

01 DATE OF INSPECTION 11 / 20 / 95 02 SITE STATUS
☐ ACTIVE
☒ INACTIVE 03 YEARS OF OPERATION
1856 1993 UNKNOWN
BEGINNING YEAR ENDING YEAR
04 AGENCY PERFORMING INSPECTION (Check all that apply)
☒ A EPA ☐ B EPA CONTRACTOR ☐ C MUNICIPAL ☐ D MUNICIPAL CONTRACTOR
☐ E STATE ☐ F STATE CONTRACTOR ☐ G OTHER

05 CHIEF INSPECTOR	06 TITLE	07 ORGANIZATION	08 TELEPHONE NO
BRUCE EVERETTS	EPS III	IEPA	(217) 524 1663
09 OTHER INSPECTORS	10 TITLE	11 ORGANIZATION	12 TELEPHONE NO
BRAD TAYLOR	EPS III	IEPA	(217) 524 1660
KEN CORKILL	EPS III	IEPA	(217) 524 1664
MARK DENSMORE	EPS II	IEPA	(217) 785 8725
PETE SORENSEN	EPS III	IEPA	(217) 524-1657
			()

13 SITE REPRESENTATIVES INTERVIEWED	14 TITLE	15 ADDRESS	16 TELEPHONE NO
MARION ERTMER	Manager Jo Davess Service Co.	Box 249 Elizabeth IL 61028	(815) 235 6055
MICK GRONEWALD	FEHR GRAHAM & ASSOCIATES	660 W Stephenson St FREDPORT IL 61032	(815) 235-7643
			()
			()
			()
			()
			()

17 ACCESS GAINED BY (Check one)
☒ PERMISSION ☐ WARRANT 18 TIME OF INSPECTION 8 00 am 19 WEATHER CONDITIONS SUNNY, UPPER 20°s

IV INFORMATION AVAILABLE FROM

01 CONTACT	02 OF (Agency/Organization)	03 TELEPHONE NO		
MARION ERTMER	JO DAVIESS SERVICE COMPANY	(815) 235 6055		
04 PERSON RESPONSIBLE FOR SITE INSPECTION FORM	05 AGENCY	06 ORGANIZATION	07 TELEPHONE NO.	08 DATE
BRUCE EVERETTS	IEPA		217/782 6760	<u>11 / 20 / 95</u> MONTH DAY YEAR

EPA FORM 2070-13(7-81)



POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 3 DESCRIPTION OF HAZARDOUS CONDITIONS AND INCIDENTS

I. IDENTIFICATION

01 STATE IL 02 SITE NUMBER NA

ILT 180010217

II. HAZARDOUS CONDITIONS AND INCIDENTS

01 ☐ A GROUNDWATER CONTAMINATION 02 ☒ OBSERVED (DATE 11 20 95) ☐ POTENTIAL ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED _____ 04 NARRATIVE DESCRIPTION
Monitor Well 4 contained elevated levels of volatile and semi-volatile
contaminants

01 ☐ B SURFACE WATER CONTAMINATION 02 ☐ OBSERVED (DATE _____) ☐ POTENTIAL ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED _____ 04 NARRATIVE DESCRIPTION
None Documented or Observed

01 ☐ C CONTAMINATION OF AIR 02 ☐ OBSERVED (DATE _____) ☐ POTENTIAL ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED _____ 04 NARRATIVE DESCRIPTION
None Documented or Observed

01 ☐ D FIRE/EXPLOSIVE CONDITIONS 02 ☐ OBSERVED (DATE _____) ☐ POTENTIAL ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED _____ 04 NARRATIVE DESCRIPTION
None Documented or Observed

01 ☐ E DIRECT CONTACT 02 ☐ OBSERVED (DATE _____) ☒ POTENTIAL ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED _____ 04 NARRATIVE DESCRIPTION
No workers are present but no restrictions to site access are
present

01 ☐ F CONTAMINATION OF SOIL 02 ☒ OBSERVED (DATE 11 20 95) ☒ POTENTIAL ☐ ALLEGED
03 AREA POTENTIALLY AFFECTED _____ 04 NARRATIVE DESCRIPTION
The wastepile was ^(Acryl) found to contain contaminate soil
There is a potential for subsurface soil contamination due to
past activities on the property

01 ☐ G DRINKING WATER CONTAMINATION 02 ☐ OBSERVED (DATE _____) ☐ POTENTIAL ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED _____ 04 NARRATIVE DESCRIPTION
None Documented or Observed

01 ☐ H WORKER EXPOSURE/INJURY 02 ☐ OBSERVED (DATE _____) ☐ POTENTIAL ☐ ALLEGED
03 WORKERS POTENTIALLY AFFECTED _____ 04 NARRATIVE DESCRIPTION
None Documented or Observed

01 ☐ I POPULATION EXPOSURE/INJURY 02 ☐ OBSERVED (DATE _____) ☐ POTENTIAL ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED _____ 04 NARRATIVE DESCRIPTION
None Documented or Observed



POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT

PART 3 DESCRIPTION OF HAZARDOUS CONDITIONS AND INCIDENTS

I. IDENTIFICATION

01 STATE IL 02 SITE NUMBER NA

TLT 180010217

II. HAZARDOUS CONDITIONS AND INCIDENTS (Continued)

01 ☐ J. DAMAGE TO FLORA
04 NARRATIVE DESCRIPTION

02 ☐ OBSERVED (DATE _____)

☐ POTENTIAL

☐ ALLEGED

None Documented Or Observed

01 ☐ K. DAMAGE TO FAUNA
04 NARRATIVE DESCRIPTION (include name(s) species)

02 ☐ OBSERVED (DATE _____)

☐ POTENTIAL

☐ ALLEGED

None Documented or Observed

01 ☐ L. CONTAMINATION OF FOOD CHAIN
04 NARRATIVE DESCRIPTION

02 ☐ OBSERVED (DATE _____)

☐ POTENTIAL

☐ ALLEGED

None Documented or Observed

01 ☐ M. UNSTABLE CONTAINMENT OF WASTES
(Spills/Runoff/Standing liquids Leaking drums)

02 ☐ OBSERVED (DATE _____)

☐ POTENTIAL

☐ ALLEGED

03 POPULATION POTENTIALLY AFFECTED _____ 04 NARRATIVE DESCRIPTION

None Documented or Observed

01 ☐ N. DAMAGE TO OFFSITE PROPERTY
04 NARRATIVE DESCRIPTION

02 ☐ OBSERVED (DATE _____)

☐ POTENTIAL

☐ ALLEGED

None Documented or Observed

01 ☐ O. CONTAMINATION OF SEWERS STORM DRAINS WWTPs
04 NARRATIVE DESCRIPTION

02 ☐ OBSERVED (DATE _____)

☐ POTENTIAL

☐ ALLEGED

None Documented or Observed

01 ☐ P. ILLEGAL/UNAUTHORIZED DUMPING
04 NARRATIVE DESCRIPTION

02 ☐ OBSERVED (DATE _____)

☐ POTENTIAL

☐ ALLEGED

None Documented or Observed

05 DESCRIPTION OF ANY OTHER KNOWN POTENTIAL OR ALLEGED HAZARDS

III TOTAL POPULATION POTENTIALLY AFFECTED _____

IV COMMENTS

V SOURCES OF INFORMATION (Cite specific references g state files sample analysis reports)

EPA File Information
Integrated Assessment 1995



POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION
PART 4 PERMIT AND DESCRIPTIVE INFORMATION

I IDENTIFICATION

01 STATE IL 02 SITE NUMBER NA

ILT 180010217

II PERMIT INFORMATION

01 TYPE OF PERMIT ISSUED (Check all that apply)	02 PERMIT NUMBER	03 DATE ISSUED	04 EXPIRATION DATE	05 COMMENTS
<input type="checkbox"/> A NPDES				
<input type="checkbox"/> B UIC				
<input type="checkbox"/> C AIR				
<input type="checkbox"/> D RCRA				
<input type="checkbox"/> E RCRA INTERIM STATUS				
<input type="checkbox"/> F SPCC PLAN				
<input type="checkbox"/> G STATE (Specify)				
<input type="checkbox"/> H LOCAL (Specify)				
<input type="checkbox"/> I OTHER (Specify)				
<input type="checkbox"/> J NONE				

III SITE DESCRIPTION

01 STORAGE/DISPOSAL (Check all that apply)	02 AMOUNT	03 UNIT OF MEASURE	04 TREATMENT (Check all that apply)	05 OTHER
<input type="checkbox"/> A SURFACE IMPOUNDMENT			<input type="checkbox"/> A INCINERATION	<input type="checkbox"/> A BUILDINGS ON SITE
<input checked="" type="checkbox"/> B PILES	<u>approx 250 yd</u>		<input type="checkbox"/> B UNDERGROUND INJECTION	
<input type="checkbox"/> C DRUMS ABOVE GROUND			<input type="checkbox"/> C CHEMICAL/PHYSICAL	
<input type="checkbox"/> D TANK ABOVE GROUND			<input type="checkbox"/> D BIOLOGICAL	
<input type="checkbox"/> E TANK BELOW GROUND			<input type="checkbox"/> E WASTE OIL PROCESSING	
<input type="checkbox"/> F LANDFILL			<input type="checkbox"/> F SOLVENT RECOVERY	
<input type="checkbox"/> G LANDFARM			<input type="checkbox"/> G OTHER RECYCLING/RECOVERY	
<input type="checkbox"/> H OPEN DUMP			<input type="checkbox"/> H OTHER (Specify)	
<input type="checkbox"/> I OTHER (Specify)				06 AREA OF SITE <u>approx 1.4</u> (Acres)

07 COMMENTS

The pile is a result of 1993 field activities performed by Dahl & Associates. Dahl & Associates were working for the Jo Davess Service Co

IV CONTAINMENT

01 CONTAINMENT OF WASTES (Check on)
☐ A ADEQUATE SECURE ☐ B MODERATE ☒ C INADEQUATE POOR ☐ D INSECURE UNSOUND DANGEROUS

02 DESCRIPTION OF DRUMS DIKING LINERS BARRIERS ETC

V ACCESSIBILITY

01 WASTE EASILY ACCESSIBLE ☒ YES ☐ NO
02 COMMENTS
The most accessible area is the pit from which the soil of the wastepile was excavated. The pit was found to still contain contaminated soil.

VI SOURCES OF INFORMATION (Cite specific references & state files sample analysis reports)

IEPA File Information
Integrated Assessment, 1995



POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 5 WATER DEMOGRAPHIC AND ENVIRONMENTAL DATA

I IDENTIFICATION

01 STATE 02 SITE NUMBER

IL NA

ILT 18000 217

II DRINKING WATER SUPPLY

01 TYPE OF DRINKING SUPPLY
(Check as applicable)

SURFACE WELL
COMMUNITY A ☐ B ☐
NON-COMMUNITY C ☐ D ☒

02 STATUS

ENDANGERED AFFECTED MONITORED
A ☐ B ☐ C ☐
D ☐ E ☐ F ☐

03 DISTANCE TO SITE

A _____ (mi)
B 220 (mi) ft

III GROUNDWATER

01 GROUNDWATER USE IN VICINITY (Check one)

☐ A ONLY SOURCE FOR DRINKING ☒ B DRINKING
(Other sources available)
COMMERCIAL, INDUSTRIAL, IRRIGATION
(No other water sources available)
☐ C COMMERCIAL, INDUSTRIAL, IRRIGATION
(Limited other sources available)
☐ D NOT USED UNUSEABLE

02 POPULATION SERVED BY GROUND WATER unknown

03 DISTANCE TO NEAREST DRINKING WATER WELL 220 (mi) ft

04 DEPTH TO GROUNDWATER

50 (ft)

05 DIRECTION OF GROUNDWATER FLOW

Southeast

06 DEPTH TO AQUIFER
OF CONCERN

50 (ft)

07 POTENTIAL YIELD
OF AQUIFER

(gpd)

08 SOLE SOURCE AQUIFER

☐ YES ☐ NO

09 DESCRIPTION OF WELLS (including usage, depth, and location relative to population and buildings)

Most area wells are present within Niagra dolomites or Galena
limestones

10 RECHARGE AREA

☐ YES COMMENTS
☐ NO

11 DISCHARGE AREA

☐ YES COMMENTS
☐ NO

IV SURFACE WATER

01 SURFACE WATER USE (Check one)

☒ A RESERVOIR RECREATION
DRINKING WATER SOURCE ☐ B IRRIGATION ECONOMICALLY
IMPORTANT RESOURCES ☐ C COMMERCIAL, INDUSTRIAL ☐ D NOT CURRENTLY USED

02 AFFECTED/POTENTIALLY AFFECTED BODIES OF WATER

NAME

Galena River

AFFECTED

DISTANCE TO SITE

200 ft
(mi)
(mi)

V DEMOGRAPHIC AND PROPERTY INFORMATION

01 TOTAL POPULATION WITHIN

ONE (1) MILE OF SITE

A 1707
NO OF PERSONS

TWO (2) MILES OF SITE

B 723
NO OF PERSONS

THREE (3) MILES OF SITE

C 211
NO OF PERSONS

02 DISTANCE TO NEAREST POPULATION

220 ft (mi)

03 NUMBER OF BUILDINGS WITHIN TWO (2) MILES OF SITE

04 DISTANCE TO NEAREST OFF-SITE BUILDING

(mi)

05 POPULATION WITHIN VICINITY OF SITE (Provide narrative description of nature of population within vicinity of site e.g. rural, village, densely populated urban area)

0 - 1/4 mile 167 people
1/4 - 1/2 mile 457 people
1/2 - 1 mile 1083 people
1 - 2 mile 723 people
2 - 3 mile 211 people
3 - 4 mile 230 people

Total 2871 people within 4 miles



POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 5 WATER DEMOGRAPHIC AND ENVIRONMENTAL DATA

I IDENTIFICATION

01 STATE 02 SITE NUMBER

IL NA

111 180 010 217

VI ENVIRONMENTAL INFORMATION

01 PERMEABILITY OF UNSATURATED ZONE (Check one)

☐ A 10^{-6} - 10^{-8} cm/sec ☐ B 10^{-4} - 10^{-6} cm/sec ☒ C 10^{-4} - 10^{-3} cm/sec ☐ D GREATER THAN 10^{-3} cm/sec

02 PERMEABILITY OF BEDROCK (Check one)

☐ A IMPERMEABLE (Less than 10^{-6} cm/sec) ☒ B RELATIVELY IMPERMEABLE (10^{-4} - 10^{-6} cm/sec) ☐ C RELATIVELY PERMEABLE (10^{-2} - 10^{-4} cm/sec) ☐ D VERY PERMEABLE (Greater than 10^{-2} cm/sec)

03 DEPTH TO BEDROCK

approx 40 (ft)

04 DEPTH OF CONTAMINATED SOIL ZONE

unknown (ft)

05 SOIL pH

06 NET PRECIPITATION

34.06 (in)

07 ONE YEAR 24 HOUR RAINFALL

2.6 (in)

08 SLOPE SITE SLOPE

DIRECTION OF SITE SLOPE

TERRAIN AVERAGE SLOPE

09 FLOOD POTENTIAL

SITE IS IN 100 YEAR FLOODPLAIN

10

☐ SITE IS ON BARRIER ISLAND COASTAL HIGH HAZARD AREA RIVERINE FLOODWAY

11 DISTANCE TO WETLANDS (5 acre minimum)

ESTUARINE

OTHER (Riverine)

A (mi)

B 200 ft (mi)

12 DISTANCE TO CRITICAL HABITAT (of endangered species)

(mi)

ENDANGERED SPECIES

13 LAND USE IN VICINITY

DISTANCE TO

COMMERCIAL/INDUSTRIAL

RESIDENTIAL AREAS NATIONAL/STATE PARKS
FORESTS OR WILDLIFE RESERVES

AGRICULTURAL LANDS
PRIME AG LAND AG LAND

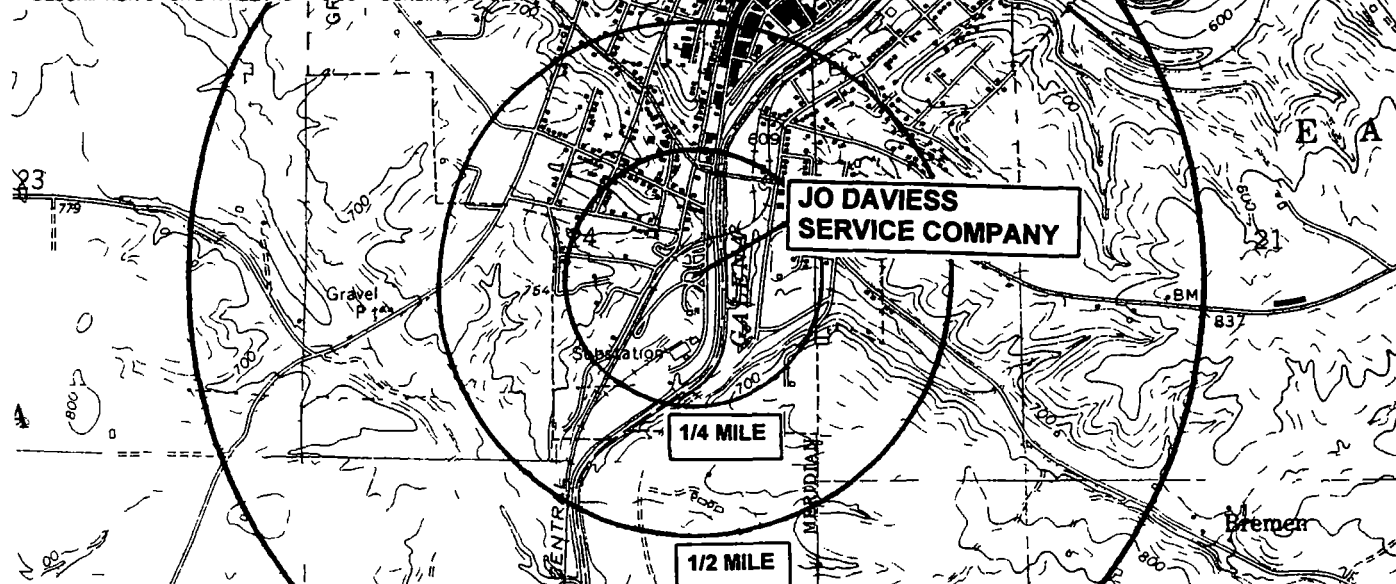
A (mi)

B 200 ft (mi)

C (mi)

D (mi)

14 DESCRIPTION OF SITE IN RELATION TO SURROUNDING TOPOGRAPHY



VII SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analysis, reports)

ILT180010217



POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 7 OWNER INFORMATION

I. IDENTIFICATION

01 STATE	02 SITE NUMBER
IL	NA

II. CURRENT OWNER(S)				PARENT COMPANY (if applicable)			
01 NAME		02 D+B NUMBER		08 NAME		09 D+B NUMBER	
Jo Daviess Service Co							
03 STREET ADDRESS (P O Box RFD etc.)		04 SIC CODE		10 STREET ADDRESS (P O Box RFD etc.)		11 SIC CODE	
P O Box 249							
05 CITY	06 STATE	07 ZIP CODE		12 CITY	13 STATE	14 ZIP CODE	
Elizabeth	IL	61028					
01 NAME		02 D+B NUMBER		08 NAME		09 D+B NUMBER	
03 STREET ADDRESS (P O Box RFD etc.)		04 SIC CODE		10 STREET ADDRESS (P O Box RFD # etc.)		11 SIC CODE	
05 CITY	06 STATE	07 ZIP CODE		12 CITY	13 STATE	14 ZIP CODE	
01 NAME		02 D+B NUMBER		08 NAME		09 D+B NUMBER	
03 STREET ADDRESS (P O Box RFD etc.)		04 SIC CODE		10 STREET ADDRESS (P O Box RFD # etc.)		11 SIC CODE	
05 CITY	06 STATE	07 ZIP CODE		12 CITY	13 STATE	14 ZIP CODE	
01 NAME		02 D+B NUMBER		08 NAME		09 D+B NUMBER	
03 STREET ADDRESS (P O Box RFD etc.)		04 SIC CODE		10 STREET ADDRESS (P O Box RFD # etc.)		11 SIC CODE	
05 CITY	06 STATE	07 ZIP CODE		12 CITY	13 STATE	14 ZIP CODE	
III. PREVIOUS OWNER(S) (List most recent first)				IV. REALTY OWNER(S) (if applicable list most recent first)			
01 NAME		02 D+B NUMBER		01 NAME		02 D+B NUMBER	
Northwestern Ill Gas & Electric							
03 STREET ADDRESS (P O Box RFD etc.)		04 SIC CODE		03 STREET ADDRESS (P O Box RFD etc.)		04 SIC CODE	
Unknown							
05 CITY	06 STATE	07 ZIP CODE		05 CITY	06 STATE	07 ZIP CODE	
01 NAME		02 D+B NUMBER		01 NAME		02 D+B NUMBER	
Northwestern Ill Utilities							
03 STREET ADDRESS (P O Box RFD etc.)		04 SIC CODE		03 STREET ADDRESS (P O Box RFD # etc.)		04 SIC CODE	
Unknown							
05 CITY	06 STATE	07 ZIP CODE		05 CITY	06 STATE	07 ZIP CODE	
01 NAME		02 D+B NUMBER		01 NAME		02 D+B NUMBER	
Gas Utilities Company							
03 STREET ADDRESS (P O Box RFD etc.)		04 SIC CODE		03 STREET ADDRESS (P O Box RFD # etc.)		04 SIC CODE	
Unknown							
05 CITY	06 STATE	07 ZIP CODE		05 CITY	06 STATE	07 ZIP CODE	
Galena							
V. SOURCES OF INFORMATION (Cite specific references, e.g. state files sample analysis reports)							
*other previous site owners date back to 1856							

ILT 180010217



**POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 8 OPERATOR INFORMATION**

I IDENTIFICATION

01 STATE **IL** 02 SITE NUMBER **NA**

II. CURRENT OPERATOR (Provide if different from owner)					OPERATOR'S PARENT COMPANY (If applicable)				
01 NAME			02 D+B NUMBER		10 NAME			11 D+B NUMBER	
03 STREET ADDRESS (P O Box, RFD # etc.)			04 SIC CODE		12 STREET ADDRESS (P O Box, RFD # etc.)			13 SIC CODE	
05 CITY		06 STATE	07 ZIP CODE		14 CITY		15 STATE	16 ZIP CODE	
08 YEARS OF OPERATION		09 NAME OF OWNER							
III PREVIOUS OPERATOR(S) (List most recent first provide only if different from owner)					PREVIOUS OPERATORS' PARENT COMPANIES (If applicable)				
01 NAME			02 D+B NUMBER		10 NAME			11 D+B NUMBER	
03 STREET ADDRESS (P O Box, RFD # etc.)			04 SIC CODE		12 STREET ADDRESS (P O Box, RFD # etc.)			13 SIC CODE	
05 CITY		06 STATE	07 ZIP CODE		14 CITY		15 STATE	16 ZIP CODE	
08 YEARS OF OPERATION		09 NAME OF OWNER DURING THIS PERIOD							
01 NAME			02 D+B NUMBER		10 NAME			11 D+B NUMBER	
03 STREET ADDRESS (P O Box, RFD # etc.)			04 SIC CODE		12 STREET ADDRESS (P O Box, RFD # etc.)			13 SIC CODE	
05 CITY		06 STATE	07 ZIP CODE		14 CITY		15 STATE	16 ZIP CODE	
08 YEARS OF OPERATION		09 NAME OF OWNER DURING THIS PERIOD							
01 NAME			02 D+B NUMBER		10 NAME			11 D+B NUMBER	
03 STREET ADDRESS (P O Box, RFD # etc.)			04 SIC CODE		12 STREET ADDRESS (P O Box, RFD # etc.)			13 SIC CODE	
05 CITY		06 STATE	07 ZIP CODE		14 CITY		15 STATE	16 ZIP CODE	
08 YEARS OF OPERATION		09 NAME OF OWNER DURING THIS PERIOD							
IV SOURCES OF INFORMATION (Cite specific references, e.g. state files, sample analysis, reports)									

ILT180010217

POTENTIAL HAZARDOUS WASTE SITE SITE INSPECTION REPORT PART 9 GENERATOR/TRANSPORTER INFORMATION		I. IDENTIFICATION	
		01 STATE	02 SITE NUMBER
		IL	NA

II ON-SITE GENERATOR			
01 NAME		02 D+B NUMBER	
Jo Daviess Service Company			
03 STREET ADDRESS (P O Box RFD # etc.)		04 SIC CODE	
P O Box 249			
05 CITY	06 STATE	07 ZIP CODE	
Elizabeth	IL	61028	

III OFF-SITE GENERATOR(S)			
01 NAME		02 D+B NUMBER	
03 STREET ADDRESS (P O Box RFD # etc.)		04 SIC CODE	
05 CITY	06 STATE	07 ZIP CODE	
01 NAME		02 D+B NUMBER	
03 STREET ADDRESS (P O Box RFD # etc.)		04 SIC CODE	
05 CITY	06 STATE	07 ZIP CODE	

IV TRANSPORTER(S)			
01 NAME		02 D+B NUMBER	
03 STREET ADDRESS (P O Box RFD # etc.)		04 SIC CODE	
05 CITY	06 STATE	07 ZIP CODE	
01 NAME		02 D+B NUMBER	
03 STREET ADDRESS (P O Box RFD # etc.)		04 SIC CODE	
05 CITY	06 STATE	07 ZIP CODE	

V SOURCES OF INFORMATION <small>(Cite specific reference to state file sample analysis, reports)</small>			

ILT1800102M



POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 10 PAST RESPONSE ACTIVITIES

I IDENTIFICATION

01 STATE 02 SITE NUMBER
IL NA

II. PAST RESPONSE ACTIVITIES

01 ☐ A WATER SUPPLY CLOSED
04 DESCRIPTION

02 DATE _____

03 AGENCY _____

01 ☐ B TEMPORARY WATER SUPPLY PROVIDED
04 DESCRIPTION

02 DATE _____

03 AGENCY _____

01 ☐ C PERMANENT WATER SUPPLY PROVIDED
04 DESCRIPTION

02 DATE _____

03 AGENCY _____

01 ☐ D SPILLED MATERIAL REMOVED
04 DESCRIPTION

02 DATE _____

03 AGENCY _____

01 ☐ E CONTAMINATED SOIL REMOVED
04 DESCRIPTION

02 DATE _____

03 AGENCY _____

01 ☐ F WASTE REPACKAGED
04 DESCRIPTION

02 DATE _____

03 AGENCY _____

01 ☐ G WASTE DISPOSED ELSEWHERE
04 DESCRIPTION

02 DATE _____

03 AGENCY _____

01 ☐ H ON SITE BURIAL
04 DESCRIPTION

02 DATE _____

03 AGENCY _____

01 ☐ I IN SITU CHEMICAL TREATMENT
04 DESCRIPTION

02 DATE _____

03 AGENCY _____

01 ☐ J IN SITU BIOLOGICAL TREATMENT
04 DESCRIPTION

02 DATE _____

03 AGENCY _____

01 ☐ K IN SITU PHYSICAL TREATMENT
04 DESCRIPTION

02 DATE _____

03 AGENCY _____

01 ☐ L ENCAPSULATION
04 DESCRIPTION

02 DATE _____

03 AGENCY _____

01 ☐ M EMERGENCY WASTE TREATMENT
04 DESCRIPTION

02 DATE _____

03 AGENCY _____

01 ☐ N CUTOFF WALLS
04 DESCRIPTION

02 DATE _____

03 AGENCY _____

01 ☐ O EMERGENCY DIKING/SURFACE WATER DIVERSION
04 DESCRIPTION

02 DATE _____

03 AGENCY _____

01 ☐ P CUTOFF TRENCHES/SUMP
04 DESCRIPTION

02 DATE _____

03 AGENCY _____

01 ☐ Q SUBSURFACE CUTOFF WALL
04 DESCRIPTION

02 DATE _____

03 AGENCY _____

ILT 180010217



POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 10 PAST RESPONSE ACTIVITIES

L IDENTIFICATION
01 STATE 02 SITE NUMBER
IL NA

II PAST RESPONSE ACTIVITIES (Continued)

01 <input type="checkbox"/> R BARRIER WALLS CONSTRUCTED 04 DESCRIPTION	02 DATE _____	03 AGENCY _____
01 <input type="checkbox"/> S CAPPING/COVERING 04 DESCRIPTION	02 DATE _____	03 AGENCY _____
01 <input type="checkbox"/> T BULK TANKAGE REPAIRED 04 DESCRIPTION	02 DATE _____	03 AGENCY _____
01 <input type="checkbox"/> U GROUT CURTAIN CONSTRUCTED 04 DESCRIPTION	02 DATE _____	03 AGENCY _____
01 <input type="checkbox"/> V BOTTOM SEALED 04 DESCRIPTION	02 DATE _____	03 AGENCY _____
01 <input type="checkbox"/> W GAS CONTROL 04 DESCRIPTION	02 DATE _____	03 AGENCY _____
01 <input type="checkbox"/> X FIRE CONTROL 04 DESCRIPTION	02 DATE _____	03 AGENCY _____
01 <input type="checkbox"/> Y LEACHATE TREATMENT 04 DESCRIPTION	02 DATE _____	03 AGENCY _____
01 <input type="checkbox"/> Z AREA EVACUATED 04 DESCRIPTION	02 DATE _____	03 AGENCY _____
01 <input type="checkbox"/> 1 ACCESS TO SITE RESTRICTED 04 DESCRIPTION	02 DATE _____	03 AGENCY _____
01 <input type="checkbox"/> 2 POPULATION RELOCATED 04 DESCRIPTION	02 DATE _____	03 AGENCY _____
01 <input checked="" type="checkbox"/> 3 OTHER REMEDIAL ACTIVITIES 04 DESCRIPTION	02 DATE <u>Summer 1993</u>	03 AGENCY <u>Dahl & Associated working for J D S C</u>

Site Assessment performed in 1993 by Dahl & Associate working for J D S C A summary of activities is described in Integrated Assessment Report Section 2.3.

III SOURCES OF INFORMATION (Cite specific reference to state files, sample analysis, reports)

ILT180010217



POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 11 ENFORCEMENT INFORMATION

I. IDENTIFICATION	
01 STATE	02 SITE NUMBER
IL	N/A

II ENFORCEMENT INFORMATION

01 PAST REGULATORY/ENFORCEMENT ACTION ☐ YES ☒ NO

02 DESCRIPTION OF FEDERAL, STATE, LOCAL REGULATORY/ENFORCEMENT ACTION

III SOURCES OF INFORMATION (Cite specific references, e.g. state files, sample analysis, reports)

JO DAVIESS SERVICE CO PROPERTY

SOUTH WATER STREET

CLOSEST RESIDENT

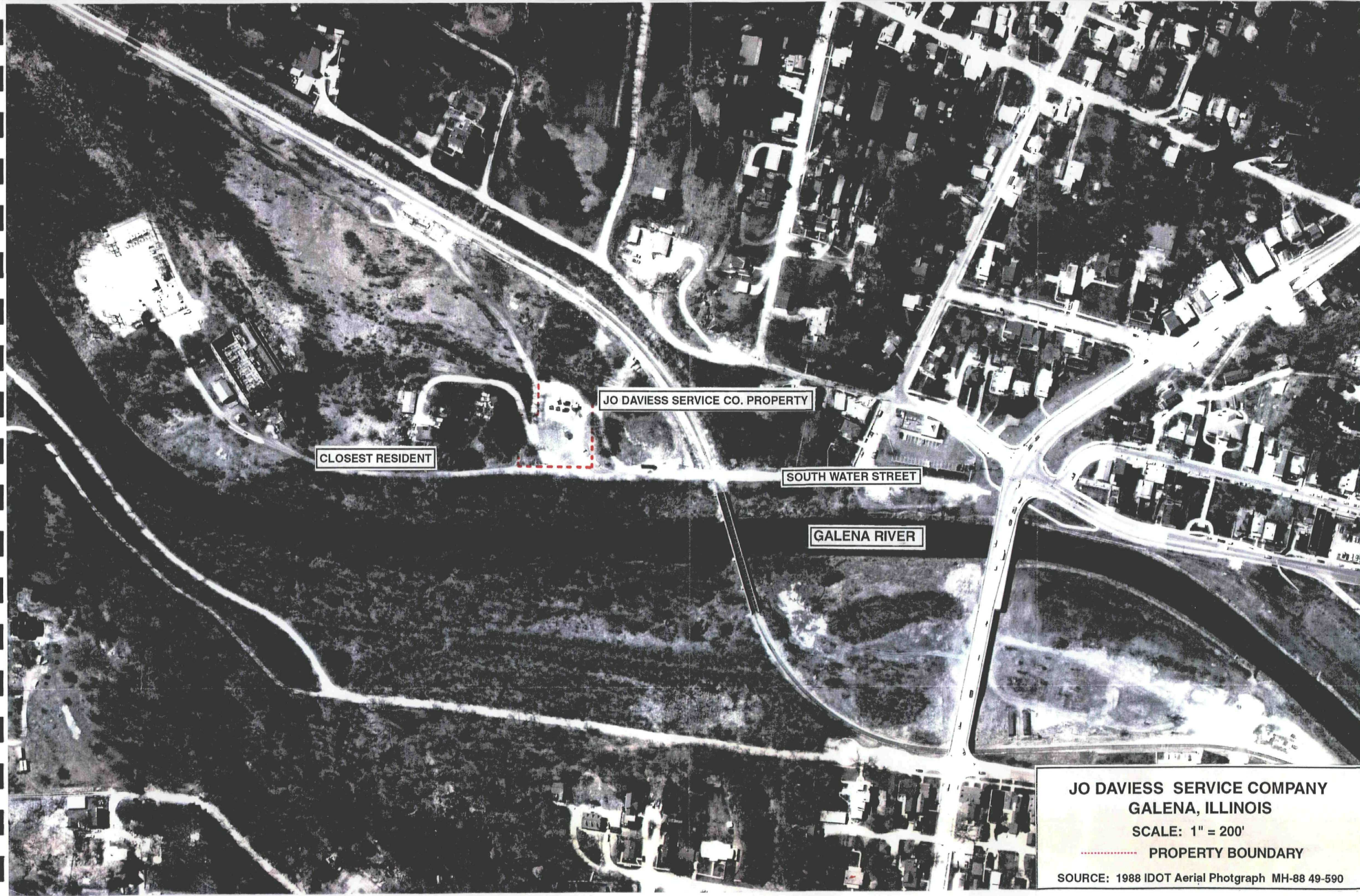
GALENA RIVER

JO DAVIESS SERVICE COMPANY
GALENA, ILLINOIS

SCALE 1" = 200'

PROPERTY BOUNDARY

SOURCE 1970 IDOT Aerial Photograph CL 801 Exp 7 63



JO DAVIESS SERVICE CO. PROPERTY

CLOSEST RESIDENT

SOUTH WATER STREET

GALENA RIVER

JO DAVIESS SERVICE COMPANY
GALENA, ILLINOIS
SCALE: 1" = 200'
..... PROPERTY BOUNDARY
SOURCE: 1988 IDOT Aerial Photograph MH-88 49-590



JO DAVIESS SERVICE CO. PROPERTY

CLOSEST RESIDENT

SOUTH WATER STREET

GALENA RIVER

JO DAVIESS SERVICE COMPANY
GALENA, ILLINOIS

SCALE: 1" = 200'

..... PROPERTY BOUNDARY

SOURCE: 1994 IDOT Aerial Photograph NAPP 49-590